2006 COMPUTERWORLD HONORS PROGRAM

■ Learn how this year's award winners did well by doing good. **PAGE 6**

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JUNE 12, 2006 ■ VOL. 40 ■ NO. 24 ■ $5/COPY

HP Sets Limits On Telework By IT Staffers

Mott pulls employees back to offices; move aligns with his goals, say CIOs

BY PATRICK THIBODEAU

An eyebrow-raising decision by Hewlett-Packard Co. to put a stop to telecommuting by some of its IT staffers isn't a signal that the idea of working from home is falling out of favor at large companies. But it does show that telecommuting has its limits within IT organizations, several executives said last week.

Indeed, some of HP CIO Randall Mott's corporate IT peers said that he probably had no choice but to curb telecommuting because of what he's trying to accomplish at the IT vendor. Mott is consolidating more than 85 data centers into six facilities, creating an enterprise data warehouse to give end users a centralized view of data and overhauling the way the company manages IT projects.

> We do allow [telecommuting] where it makes sense.
>
> **RANDALL MOTT**, CIO, HEWLETT-PACKARD CO.

Telecommuting by large numbers of employees works best when there are "tried and true" processes in place, not when a company is heading in new IT directions, said Stephen Pickett, CIO at Penske Corp. in Bloomfield Hills, Mich., and president of the Chicago-based Society for Information Management.

SIM has studied the effectiveness of far-flung IT teams and has found that remote workers "can be as productive as people in the office," according to Pickett. Moreover, he said, tapping workers scattered around the globe to take part in a project can be advantageous

Teleworkers, page 54

NEWSPAPER

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RICHARD DOWNS

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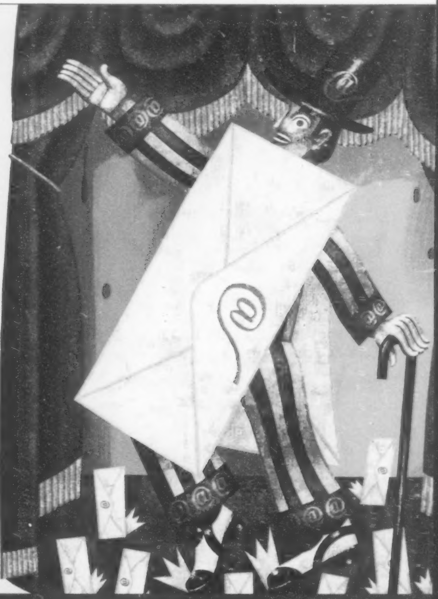

SPECIAL REPORT It's been battered by viruses and spam, and lost some turf to instant messaging, but e-mail has a surprisingly bright future, Gary Anthes reports. Technologies emerging from research labs point to brave new roles for the humble e-mail message.

OUR REPORT ON THE FUTURE OF E-MAIL BEGINS ON PAGE 23.

Costs Slow Adoption of E-health Record Systems

Health care providers see promise of payoffs but face initial funding hurdles

BY HEATHER HAVENSTEIN
WASHINGTON

While some physician practices and regional health IT partnerships have successfully adopted electronic medical record systems, many others are still struggling to absorb the implementation costs.

That was the message from several speakers at the inaugural National Health IT Day here last week. The event was sponsored by more than 40 public- and private-sector health care and standards organizations looking to show the potential of IT to improve health care and help control its spiraling costs.

Officials at some regional health information organizations, which have been created to facilitate the exchange of health data among local hospitals, physicians and insurers, said they face financial hurdles as they begin work on creating EMR systems.

Leisa Jenkins, executive director of CareSpark, a RHIO encompassing northeastern Tennessee and southwestern Virginia, said the organization has so far received commitments for $2.5 million in federal grants and contributions from members and area employers to launch an EMR system. The group needs $4 million to complete that project and estimates that $1.2 million would be required to cover annual operating costs.

"If we can get over the capital expenditure in Year 1, we

E-health, page 54

INSIDE

A Wisconsin law banning forced RFID implants in people takes effect this week.
Page 12

Remember when technology
had the ability to amaze you?

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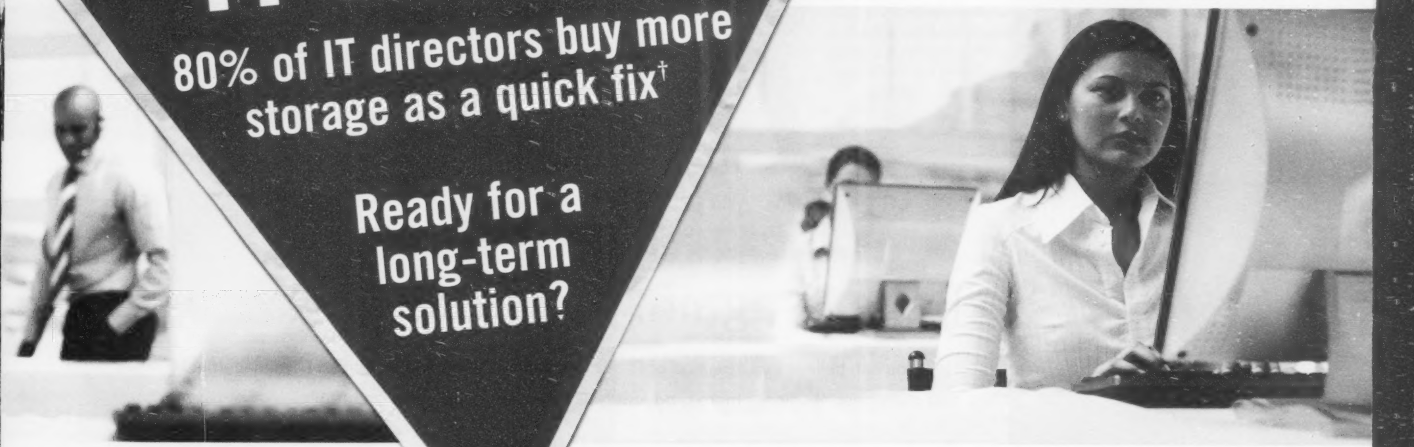

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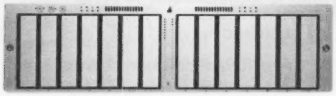

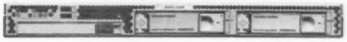

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†Storage Magazine, February 2005.

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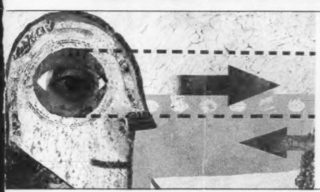

Taking the User View

In the Technology section: Real-time monitoring tools are moving beyond broad network and application measurements to gauge the individual user experience. **Page 35**

Top 10 SaaS Traps

In the Management section: Don't be too sure that software-as-a-service deals are going to save you hassles and money. Hidden snares will get you if you don't watch out. Here are some common blunders and how to avoid them. **Page 45**

NEWS

6 **Computerworld Honors Program:** Ten organizations received awards for visionary IT projects last week as part of the 2006 *Computerworld* Honors Program. Not all are using cutting-edge products, but one thing they have in common is that they utilized technology to produce economic, educational or social benefits.

12 **Wisconsin bans** the implantation of RFID chips in people who don't give their consent.

13 **Microsoft** is ready to ship the third in a series of upgraded ERP applications.

14 **IT security spending** could shift toward converged product suites as antimalware tools become commodities, according to users and Gartner analysts.

16 **Desktop phones** are expected to become more user-friendly and functional with the upcoming release of new IP-based products by Avaya, Mitel and Siemens.

16 **Google** begins limited testing of a hosted spreadsheet, but the new tool isn't seen as a threat to Excel on corporate desktops.

17 **Payless ShoeSource** is planning a nationwide rollout of a workforce scheduling application that helped boost sales in a test deployment in its California stores.

18 **Global Dispatches:** IBM plans to spend $6 billion on its operations in India over the next three years — tripling the company's current spending level there.

SPECIAL REPORT

E-MAIL'S 2ND ACT

Yes, e-mail has virus and spam problems and is yielding some turf to instant messaging. But technologies emerging from research labs may cure those ills and help e-mail take on surprising new roles in the workplace.

Special report begins on page 23.

TECHNOLOGY

40 **Security Manager's Journal: IP Telephony Push Calls for Rushed Assessment.** When management demands immediate installation of an IP telephony system, Mathias Thurman must scramble to pull the security pieces together.

MANAGEMENT

KEVIN KNAUL

48 **Career Watch.** R.E.S.P.E.C.T. Find out what it means to IT — and what your employees may do if they don't feel the love. Plus, Kevin Knaul of Hudson IT & Telecommunications discusses the future of IT work. And, we examine why you're feeling so stressed (and why you're not the only one in IT who is).

OPINIONS

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20 **Don Tennant** is wary of Alienware's push into the corporate market, given its reputation for poor customer service.

20 **Thornton A. May** puts out a call for truly inspiring IT leadership.

21 **Doug Lewis** suggests that e-mail messages are a one-way street, sure to cut you off from users and their problems.

43 **Curt A. Monash** says technologists need to get involved in public policy debates over electronic data collection, Internet censorship in undemocratic countries and the need for technology initiatives in developing nations.

50 **Bart Perkins** warns that migrating to Oracle's Fusion will not be your average upgrade. The time to develop a strategy is now.

56 **Frankly Speaking: Frank Hayes** watches as the numbers pile up in one data breach after another. But beyond the numbers that count up victims and damages incurred, the interesting number is the one provided by the Social Security Administration.

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ONLINE

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How to Secure Mobile Devices

MOBILE/WIRELESS: Laptop thefts and losses are increasing, and handheld devices are equally at risk. Analyst Jack Gold outlines nine things you should do to protect yourself and your company.

www.computerworld.com/mobilewireless

Do VoIP Right

NETWORKING: Columnist John Neiberger offers advice about how to deal with executives, users and support staff to ensure a successful IP telephony implementation.

www.computerworld.com/networking

A Windows Guy Looks at The MacBook Pro

HARDWARE: *Computerworld.com*'s Scot Finnie finds a few nits with Apple's new 17-in. laptop, then delivers his verdict.

www.computerworld.com/hardware

Five Ways to Prevent IP Spoofing

SECURITY: Expert Jonathan Hassell explains the different kinds of spoofing attacks and the best ways to reduce your risk.

www.computerworld.com/security

The Next Wave?

STORAGE: Automated classification and search will change IT shops, says columnist John Webster.

www.computerworld.com/storage

Solving Plug Woes

MOBILE/WIRELESS: Do you hate it when bulky adapters hog the space on your power strip? Or when plugs to your gadgets fall behind your desk? Columnist Michelle Johnson has some answers — and, of course, they involve more gadgets.

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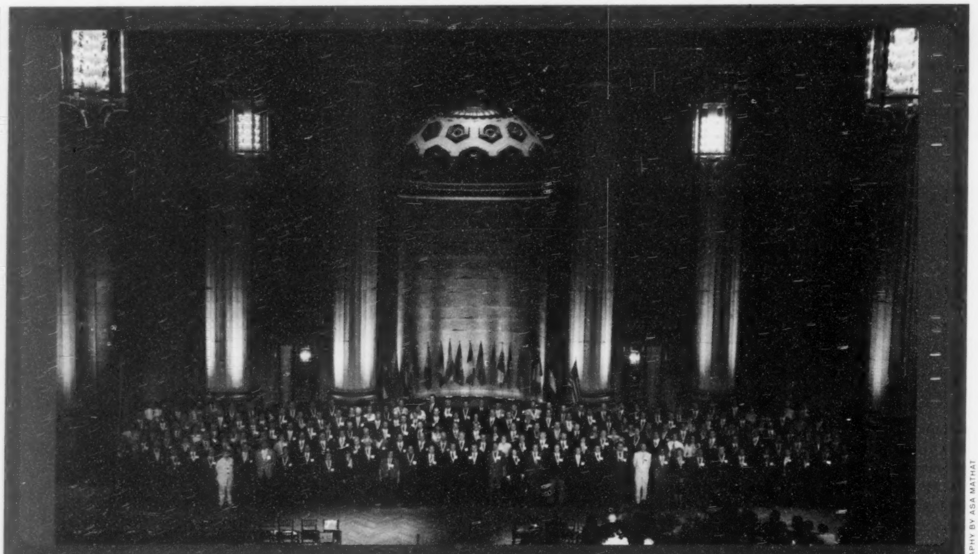
Award Winners Tap Technology for Greater Good

Ten organizations receive honors for their use of IT in projects that break new ground

BY PATRICK THIBODEAU
WASHINGTON



At the 18th Annual Computerworld Honors Program awards ceremony, held in Washington last week, the 2006 Laureates received their commemorative medallions, and recipients of the Program's Leadership, Finalist and 21st Century Achievement Awards were announced.

PHOTOGRAPHY BY ASA MATHAT

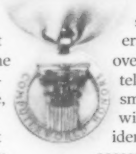
THE 2006 *Computerworld* Honors Program awards ceremony focused attention last week on some of the world's most cutting-edge IT projects, including a grid computing initiative managed by David Milne, director of database technologies at Chicago Stock Exchange Inc.

However, some of the technologies being used as part of the grid project are anything but cutting-edge. The stock exchange did recently upgrade to the latest 10g versions of Oracle Corp.'s database, clustering tools and application server software. But Milne said it is running the Oracle software on four servers based on Hewlett-Packard Co.'s Alpha processor, which HP no longer develops and will stop selling in systems this October.

Some of the HP AlphaServer systems were even bought secondhand, Milne said. Nonetheless, they are delivering high service levels and sparing the exchange from having to buy a single large system to accommodate the clustered database, according to Milne. He added that when he needs more computing power, he can go out and buy "what was at one point Cadillac technology at a commodity price, and still do better [on performance] than what the high-end commodity products are doing today."

The Chicago Stock Exchange received a 21st Century Achievement Award for its grid project in the finance, insurance and real estate category at last week's ceremony. The award illustrates a key aspect of some of this year's winning projects: Having the latest or greatest technology isn't always as important as how systems are assembled to reduce costs and deliver new services to end users.

HONORS PROGRAM 2006



Another award winner whose project fits a similar mold is Cambridge, Mass.-based Zipcar Inc., which operates a car-sharing service in more than 30 U.S. cities.

Zipcar's self-service system lets customers make reservations over the Internet or by telephone and then use smart cards embedded with radio frequency identification tags to gain access to rental vehicles parked in designated on-street spaces. The company, which was honored in the transportation category, uses Cingular Wireless LLC's data network to track its cars and send information about reservations to specialized black-box devices that are in each vehicle.

Roy Russell, vice president of technology at Zipcar, said that the wireless car-sharing system was made possible by "a lot of [technology] pieces that are really geared to self-service." Unable to buy what it needed to make the system work, the company built everything itself — from the reservations system to the in-vehicle devices. It even created a proprietary data-transmission protocol in order to avoid the overhead created by TCP/IP.

Zipcar has 55,000 members, which it serves with a total of about 1,000 cars. Russell claimed that the company has helped take 30,000 cars off the streets in urban areas because city residents are using its service for transportation instead of driving their own vehicles. Zipcar also says its members report that they are driving less and walking, biking or using public transportation more often than they used to.

Such benefits are in line with the goals of the *Computerworld* Honors Program, which recognizes companies, nonprofit organizations and government agencies for using technology to promote economic, educational and social advancements. An independent panel of 33 CIO-level judges chose this year's 10 award winners from among five finalists in each category.

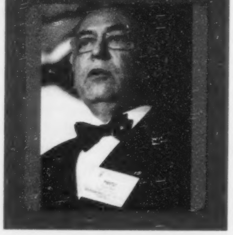
LEADERSHIP EXAMPLES

Two individuals – one a user, the other a vendor – also won awards last week:

THE EMC INFORMATION LEADERSHIP AWARD: Linda Dillman, former CIO at Wal-Mart Stores Inc. and now executive vice president of risk management and benefits administration at the retailer.

* * *

THE MORGAN STANLEY LEADERSHIP AWARD FOR GLOBAL COMMERCE: Hector Ruiz, chairman and CEO of Advanced Micro Devices Inc.



Two individual awards were also presented, including one given to Hector Ruiz, chairman and CEO of Advanced Micro Devices Inc. At the awards ceremony, Ruiz underscored a theme that fits many of the honored projects: using technology to improve the greater good. Ruiz said that people throughout the world "are desperately clamoring for the opportunity to have access" to technology.

The New York City Police Department's IT unit received one of the loudest rounds of applause during the ceremony, for its effort to rebuild the NYPD's technology infrastruc-

Continued on page 8

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HONORS PROGRAM 2006

Continued from page 6

ture and improve the police force's ability to fight crime. The NYPD won the 21st Century Achievement Award in the government and nonprofit organizations category for a data warehouse project that will eventually consolidate information about crimes from as many as 60 data sources.

The police department also has equipped officers with wireless system-access capabilities, deployed new data mining tools, improved links with a variety of federal and international databases, and begun visual mapping of criminal incidents, said Jim Onalfo, the NYPD's deputy commissioner and CIO.

Onalfo came out of retirement in 2003 to run the police department's IT operations after previously working for 30-plus years as CIO at Kraft Foods Inc. "It's been the most rewarding experience of my entire life," Onalfo said of his work at the NYPD. "What we do makes it safer for police officers and safer for the city and citizens of New York."

Before the NYPD built its data warehouse, detectives at the scene of a crime didn't have access to data that could help them solve it, Onalfo said. Now, he added, they and other officers can get information from the NYPD's databases via the wireless links, which "helps get the job done faster."

Passion about technology was also displayed last week by Bruno Friedll, systems support manager at Zurich-based Neue Zurcher Zeitung AG, one of the largest newspaper publishers in Switzerland.

Neue Zurcher won the award in the media, arts and entertainment category for its Archive 1780 project, which put every issue published by the newspaper over its 225-year history into a digital format using an automated imaging process. The archive includes about 2 million scanned newspaper pages amounting to 10TB of data and can be searched online by readers.

Friedll talked about the difficulty of converting Gothic-style text into digital information as part of the project. But when asked about the value of the work and its expected return to the company, he offered a simple but telling answer. "The value is making history accessible," he said.

> The value is making history accessible.
>
> **BRUNO FRIEDLL,** SYSTEMS SUPPORT MANAGER AT NEUE ZURCHER ZEITUNG AG, ON THE FIRM'S NEWSPAPER ARCHIVING PROJECT

BellSouth Corp. received the award in the business and related services category for developing an Amber Alert notification system that sends information about missing children to the laptops of more than 13,000 field technicians via an IP link and Cingular's wireless data radio network. The hope is that a technician might spot a missing child or a vehicle mentioned in one of the alerts and notify law enforcement officials.

And BellSouth isn't keeping the technology to itself. Jim Wheeler, general manager of network systems at the Atlanta-based company, said it is making the intellectual property behind the notification system freely available to other companies so they can set up their own programs for sending alerts to employees. ▸

2006 HONOREES

The winners of this year's 21st Century Achievement Awards include the following companies and organizations:

Business and Related Services: BELLSOUTH CORP. The Atlanta-based telecommunications carrier developed a system that sends Amber Alert notifications about missing children to its field-service technicians.

Education and Academia: COLUMBIA UNIVERSITY SCHOOL OF NURSING The New York school replaced paper clinical logs used by its nurse-practitioner students with a PDA-based system that captures more data about underserved populations.

Environment, Energy and Agriculture: U.S. GREEN BUILDING COUNCIL A PDF-based system enabled the Washington-based nonprofit organization to sharply reduce the time it takes real-estate developers to submit applications for its "green" building certification.

Finance and Insurance: CHICAGO STOCK EXCHANGE INC. The exchange deployed a computing grid that is expected to lower its hardware costs, simplify systems management and decrease downtime.

Government and Nonprofit Organizations: NEW YORK CITY POLICE DEPARTMENT The NYPD built a data warehouse that will consolidate crime information from 60 data sources and provide analytic tools to detectives and police officers in the field.

Manufacturing: ETHICON ENDO-SURGERY INC. The Johnson & Johnson subsidiary in Cincinnati developed an enterprise data warehouse to help make its operations more data-driven and get products to market faster.

Media, Arts and Entertainment: NEUE ZURCHER ZEITUNG AG Zurich-based NZZ created an online archive that provides access to all the newspaper issues it has published since 1780, with full text-search capabilities.

Medicine: DUKE UNIVERSITY HEALTH SYSTEM The health care provider in Durham, N.C., is using a Web portal to integrate real-time data on operating room patients and track them through the entire surgical process.

Science: NATIONAL CANCER INSTITUTE Rockville, Md.-based NCI developed an open grid architecture that integrates biomedical informatics tools and data in an effort to speed progress on cancer research and care.

Transportation: ZIPCAR INC. The Cambridge, Mass.-based company used RFID and wireless technologies to build a car-sharing system that's designed to reduce the need for city residents to own vehicles.

Onetime Retiree Walks IT Beat, Pushes New Tools to Fight Crime

WASHINGTON

AFTER A LONG IT career in the private sector, including more than 30 years as CIO at Kraft Foods, **Jim Onalfo** retired. Then, in 2003, Onalfo got a call from IBM executive Nicholas Donofrio, who asked him to consider taking a job as head of IT at the New York City Police Department (NYPD). Donofrio and former IBM CEO Louis Gerstner had both been contacted by Police Commissioner Raymond Kelly, who "needed to upgrade what had been an underinvested area for many years," Onalfo said last week. He took the job, and he has been deputy commissioner and CIO of the NYPD for the past three years.

Last week, the efforts of Onalfo and his IT staff paid off when the NYPD won a 21st Century Achievement Award in the government and nonprofit organizations category of the 2006 *Computerworld* Honors Program for its Crime Data Warehouse project. After the awards ceremony, Onalfo spoke with *Computerworld* about the project and general IT issues at the NYPD.

What skills did you learn at Kraft that you were able to bring to the NYPD? CIO skills. If you are a CIO and understand how a CIO does his job, then you know how to bring all the right techniques of a business into [IT] programs to get them done successfully.

When you took the CIO job, what were some of the initial tasks you had to do to get the NYPD's IT organization where you wanted it to be? It still has a long way to go. But the most important thing was to put together a strategic IT plan and get that plan approved by Commissioner Kelly and Mayor [Michael] Bloomberg. That's the real key – the program. However, we are a dramatically understaffed IT group, so we used a lot of outside companies to do the projects. We have 329 IT people, and by industry standards, we should have over 2,000. The police department is a 53,000-person organization. Supporting it with 329 [IT workers] is not necessarily the way it's done in the commercial world.

The data warehouse project that was honored tonight . . . That was a vision of Commissioner Kelly's. His vision was to use technology to help detectives do their job better. So he said to me, "I need you to build me a real-time crime center." It has 18 Mitsubishi [TV] screens all networked together and 24 desks, and we have 40 detectives who work there 24/7 – all with six to nine months of training on all the advanced data mining tools that we have developed.

What do you think you have accomplished for the city as CIO? First of all, it's been the most important thing I've ever done in my life. It's helped the police officers get their jobs done. It's helping the citizens of New York. We've done things like put laptops in cars for the first time, put a new hard-wired network throughout the city, provide disaster recovery for the data center [and] put in a videoconferencing network throughout the department so Commissioner Kelly can simultaneously talk to every precinct. There are so many things. We brought the infrastructure up to date, and now we're trying to bring all the applications up to date.

– PATRICK THIBODEAU

When you run an $80 billion company, no conversation is small talk.

Join the discussion with McKesson, June 19.

John Hammergren, CEO

Randy Spratt, CIO

change artists

On June 19 at 10:30 a.m. EDT, catch a live, interactive 30-minute conversation with McKesson CEO John Hammergren and CIO Randy Spratt. It's a dynamic webcast on strategy, technology and change, moderated by IT journalist John Gallant. Produced by HP and broadcast by CNN and CIO magazine. Sign up now at hp.com/go/changeartists

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Find out how McKesson Corporation employs IT as a strategy to guide the future of this global healthcare services company.

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2006

AT DEADLINE

Cisco Ends Reseller Contract With EMC

Cisco Systems Inc. has put the brakes on a reseller agreement under which it offered rebranded versions of EMC Corp.'s network-attached storage (NAS) devices. Cisco said halting sales of the NAS products "is an initial step in our restructuring efforts towards a broader Cisco-EMC relationship" that more tightly integrates sales and marketing efforts. EMC declined to comment on Cisco's decision.

Stolen Data Leads To Identity Thefts

The University of Michigan Credit Union in Ann Arbor confirmed that a data theft has resulted in some of its members becoming identity theft victims. The credit union said that so far, "less than 100" people have had their identities stolen – mostly to open fraudulent credit card accounts. The theft, involving documents that were supposed to have been shredded, apparently took place last summer but wasn't discovered until March.

IBM Sets July Date For DB2 Upgrade

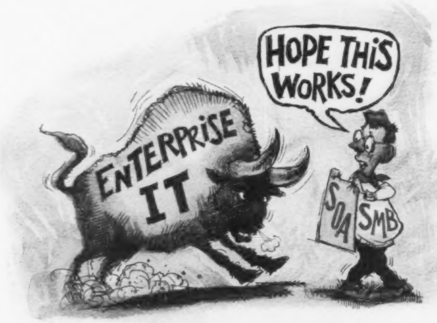
IBM formally announced its DB2 9 database, previously code-named Viper, and said the hybrid relational and XML technology will be shipped worldwide on July 28. DB2 9 will be able to natively store and manage not only structured relational data but also unstructured content such as audio, video and Web pages, IBM said. Development of the new release took five years.

Short Takes

JOHN CHAMBERS, president and CEO of Cisco since 1995, will become chairman in November while continuing as CEO. Cisco doesn't plan to immediately name a new president. . . . ELECTRONIC DATA SYSTEMS CORP. said it has succeeded in its effort to buy a majority stake in Mphasis BFL Ltd., an offshore IT services firm in Bangalore, India.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL



MATTHEW FAULKNER

SMBs Pushed Into SOA World . . .

. . . by the thundering herd of larger companies that are flocking to Web services technology. Archie Roboostoff, senior manager of product management at NetManage Inc. in Cupertino, Calif., says that service-oriented architecture (SOA) is taking off like a rocket this year.

ROBOOSTOFF: SMBs are at an SOA disadvantage.

"In the enterprise," he says, "it's a herd mentality." At least smaller companies have a good reason to make the move. Roboostoff contends that small and midsize businesses (SMB) are being roped into adopting SOAs because they need to work with big enterprises, which are demanding that their supply chains join the herd. But reluctant SMBs are at a disadvantage because they have neither the staff nor the expertise to take on SOA in a strategic way, Roboostoff says. One tactical approach he suggests is to analyze transactions with partners to determine which processes are ripe for Web services. He argues that SMBs need simple point-and-click tools for creating, exposing and subscribing to specific Web services — not for making a full-blown shift to SOA. Don't try to boil the ocean, in other words — just one bucket of it at a time.

GLBA, HIPAA and SOX are scary letters. . .

. . . but are only a snippet of the frightening regulatory alphabet. There are thousands of federal, state, local and international regulations that are foisted upon businesses each year, and Roger Bottum thinks it's foolish to try to keep up with them. That's his company's job. Bottum, vice president of marketing at Axentis Inc. in Warrensville Heights, Ohio, argues that IT departments should get out of compliance management because regulations change constantly — so much so, he says, that it's all but impossible for IT to keep up with the changes, let alone ensure that companies are in compliance. That is all Axentis does, Bottum says. And because it does so via a software-as-a-service approach, you won't need a big IT initiative to set up a compliance management program using its technology. This week, the company will update its Axentis Enterprise software to let you test it with live production data during rollouts. Pricing starts at $50,000.

4,101
Number of new federal regulations in 2004, says Competitive Enterprise Institute.

Manufacturers need a new metric . . .

. . . for profitability. According to Michael Rothschild, CEO of Maxager Technology Inc. in San Rafael, Calif., most manufacturers, especially those that make thousands of discrete items, measure success on a profit-per-unit basis. That's old-fashioned and, Rothschild suggests, much less profitable than the profit-per-minute model he has developed. Rothschild argues that the time it takes to make items must also be factored in because you might be able to produce many more low-margin units than high-margin ones for greater overall profitability. But first you need to determine the mix of products that will get you the highest profit per minute, which is what Maxager 7, available today, does for you. New in Version 7 is an advanced what-if planning tool, Rothschild says. Pricing is based on the annual revenue of customers.

Let Mr. Loopster loose on your PCs . . .

. . . to increase productivity. If you've ever wished for a better way to view overlapping windows on your computer display, consider Deskloops, a promising GUI tool from Xilokit LLC in New York. Now available in a Beta 1.4 release, the free download lets you string disparate windows together into a "loop," an interactive view that controls their size and placement.

MR. LOOPSTER: Link your app windows.

Xilokit CEO Eran Palatnik says you can make loops of windows from any Windows application. You also can save a loop and send it as an attachment in e-mail. But instead of seeing a string of file attachments, recipients will get a loop of thumbnails to click on. And if they have the app running on their machines, the program will load as if it were an attachment. Palatnik expects Deskloops 2.0 — the first nonbeta release — to be available in the fall. Mr. Loopster, the company's virtual mascot, thinks you should get in the loop.

Capture today's multimedia . . .

. . . presentations for tomorrow's classes. In mid-July, Accordent Technologies Inc. in Hermosa Beach, Calif., will ship its Capture Station 2.3 software, which runs on PCs, Macs and a stand-alone appliance. Capture Station grabs and stores a speaker's audio feed and the visual content on his computer in real time. Designed for uses such as training and distance learning, the software tracks which end users have seen presentations and can prevent them from watching subsequent programs in a series if they have yet to view the previous ones, Accordent CEO Mike Newman says. The release lets you generate podcasts, and in September, Capture Station will get support for Flash demonstrations, Newman says. Pricing starts at $15,000.▸

Accordent's Capture Station grabs everything said and seen.

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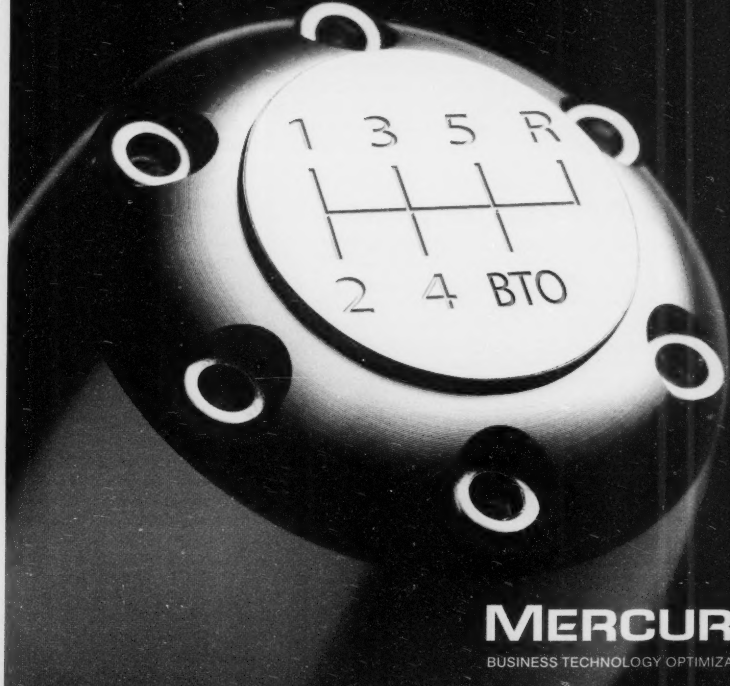

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BRIEFS

FCC Urged to Reject AT&T-BellSouth Deal

A group of telecommunications service providers last week urged the Federal Communications Commission to deny the proposed merger of AT&T Corp. and BellSouth Corp. In comments filed with the FCC, the companies said the deal would offer the new AT&T more power to thwart competition. The list of competitors includes XO Communications Inc., Talk America Holdings Inc. and NuVox Communications Inc.

McAfee Buys Risk Management Firm

McAfee Inc. has acquired Preventsys Inc., a maker of products that identify security issues and monitor compliance with company policies and government regulations. McAfee will use Preventsys' technology to bolster its risk management and compliance offerings. The purchase price was "in the low millions," a McAfee spokesman said.

HP Revises Results After IRS Settlement

Hewlett-Packard Co. last week revised upward its previously announced financial results for the second quarter following the settlement of tax issues with the Internal Revenue Service. The settlement regarding HP's tax returns from 1996 to 1998 will boost net income for the three months that ended April 30 by $443 million. HP also revised its full-year financial forecast.

Microsoft Awards Search Study Grants

Microsoft Corp. awarded 12 grants to scientists studying search engine technology. The scientists will receive grants of between $30,000 and $50,000 and will have access to more than 15 million queries plus click-through data culled from Microsoft's MSN Search tool. Any findings from the projects can be published by the scientists and used by Microsoft competitors.

Wisconsin Law Bars Forced RFID Implants

Measure takes effect this week; other states considering limits on technology

BY MARC L. SONGINI

WISCONSIN this week will become one of the first states to ban the forcible implantation of radio frequency identification (RFID) tags into humans.

The ban begins on Wednesday, when legislation signed on May 30 by Gov. James Doyle goes into effect. The act dictates that no person may force another to have a microchip implanted in his body. Violators face fines of $10,000 each day until the chip is removed.

A spokeswoman for Doyle said the law targets RFID technology, though it bans the implantation of any microchip without consent.

"I'm hoping other states will follow," said state Rep. Marlin Schneider, a Democrat who sponsored the bill. While Schneider acknowledged that he knows of no case where an RFID chip was forcibly implanted into a person, he said he believes that proactive legislation is necessary as the technology quickly advances.

Schneider said he is also concerned about current commercial uses of RFID technology. "There are a number of issues here, potentially," he said.

Proposed laws that seek to limit the use of RFID devices because of data privacy and security concerns are under discussion in a total of 19 states, according to Douglas Farry, managing director of the government affairs practice at McKenna Long & Aldridge LLP, a Washington-based law firm. Such legislation could have broad implications for RFID product manufacturers, distributors and users, he said.

Further Repercussions

Even for companies that use RFID strictly for inventory control or supply chain management, such laws could lead to IT spending on the security infrastructure changes needed for compliance, Farry said.

He urged that RFID advocates do more to educate the public and governmental bodies about the benefits of the technology and thus remove the sinister stigma that some opponents have fostered.

Kevin Brown, director of information systems at Daisy Brand LP, a Dallas-based maker of sour cream products that uses RFID systems, said, "It is understandable for the states to begin this type of legislation where technology has the potential for abuse."

Brown said that in his opinion, makers of RFID technology should educate the public on its capabilities and use. "My hope is that our policymakers can balance the need to legislate the use of technology while not impeding the creative forces of innovation," he said.

Scott Silverman, chairman of Applied Digital Solutions Inc., whose Delray Beach, Fla.-based subsidiary VeriChip Corp. supplies RFID chips for human implantation, said he doesn't object to the Wisconsin law. "In theory, we're in agreement with the posture taken," he said. "For medical uses, we've been clear all along that it's a voluntary product."

Silverman said that other potential beneficial uses of the technology would include implanting RFID chips in immigrant guest workers for identification at border crossings and employer sites.

As the use of the technology becomes more widespread, Silverman said, he expects that all the RFID-related legislation "will shake itself out." ▸

DHS Draft Report Says RFID Poses Privacy Risks

A PANEL THAT advises the Department of Homeland Security on privacy issues last week called for more work to be done on a draft report critical of the use of RFID technology for security authentication.

The report was prepared by the DHS's Emerging Applications and Technology Subcommittee and was presented to the agency's Data Privacy and Integrity Advisory Committee last week in San Francisco.

The advisory committee is charged with recommending to DHS leaders how the agency should use RFID technology.

The document remains a work in progress, said a DHS spokeswoman via e-mail after the meeting last week. The emerging-technology subcommittee will continue to review public comments on the plan that are submitted through its Web site, she said.

"The subcommittee also will be doing in-depth discussions with program areas within DHS that currently successfully deploy RFID technology for a variety of program purposes," the spokeswoman added.

The draft report had stated that while RFID is useful for tasks like inventory management, the technology should rarely be used to track people. The risks to privacy outweigh the technology's communications and security benefits, the authors said. They recommended that "RFID be disfavored for identifying and tracking human beings."

Howard Beales, chairman of the advisory committee and associate professor of strategic management and public policy at George Washington University, said the draft report has garnered significant public response since its release last month and needs to be updated.

Beales had predicted before last week's meeting that his committee would likely make a formal recommendation on the use of RFID to DHS Secretary Michael Chertoff during a quarterly meeting in September or December.

Overall, Beales said, "I think RFID in general is a very interesting technology, [but] it can raise privacy concerns."

The report notes that some RFID advocates tout the technology as a way of rapidly authenticating individuals and their identification documents. But the risks to the privacy of those carrying RFID tags on documents are considerable, it said.

> **"I think RFID in general is a very interesting technology, [but] it can raise privacy concerns.**
>
> **HOWARD BEALES,** CHAIRMAN, DHS DATA PRIVACY AND INTEGRITY ADVISORY COMMITTEE

"Human identification using RFID has serious potential to deprive people of notice that potentially highly specific, detailed information about them is being collected," the draft report found.

One supporter of RFID criticized the report, saying it was one-sided and unjustly critical of the technology. Alan Griebenow, chairman of the RFID special interest group of the Dallas-based Metroplex Technology Business Council, which advocates for the high-tech industry in the Dallas area, said RFID can be used to improve the speed of verification without compromising privacy.

"As long as we apply common-sense principles, as we're doing with video surveillance, then we can apply the technology in a way that citizens are willing to accept," Griebenow said. He noted that cell phones are already being enabled to trace the locations of people who call 911.

– MARC L. SONGINI

Microsoft Set to Launch New ERP Line

BY MARC L. SONGINI

Microsoft Corp. is expected today to start shipping the first version of its revamped set of Axapta ERP applications, dubbed Dynamics AX 4.0.

Microsoft was expected to disclose the shipping plans during its TechEd conference, which began yesterday in Boston.

The Dynamics AX 4.0 software is the latest piece of Microsoft's next-generation Dynamics software portfolio, which the company said offers tight integration with its infrastructure software and with other Microsoft and third-party business applications.

Micosoft has already released its Dynamics GP 9.0 (formerly Great Plains) and Dynamics SL (formerly Solomon) applications. The AX 4.0 software was first previewed in April at the Convergence 2006 user conference in Dallas.

New Users

Oldcastle Precast Inc. in Auburn, Wash., began installing Dynamics AX 4.0 as an early adopter in April, said CIO Bill Blyth. The concrete products manufacturer is looking to use the software to send sales and purchase-order information from one facility to another without having to re-enter the data, he said.

Oldcastle currently uses the earlier Axapta 2.5 release, which lacks such capabilities. Blyth said he expects the new version to be fully installed at his company by February.

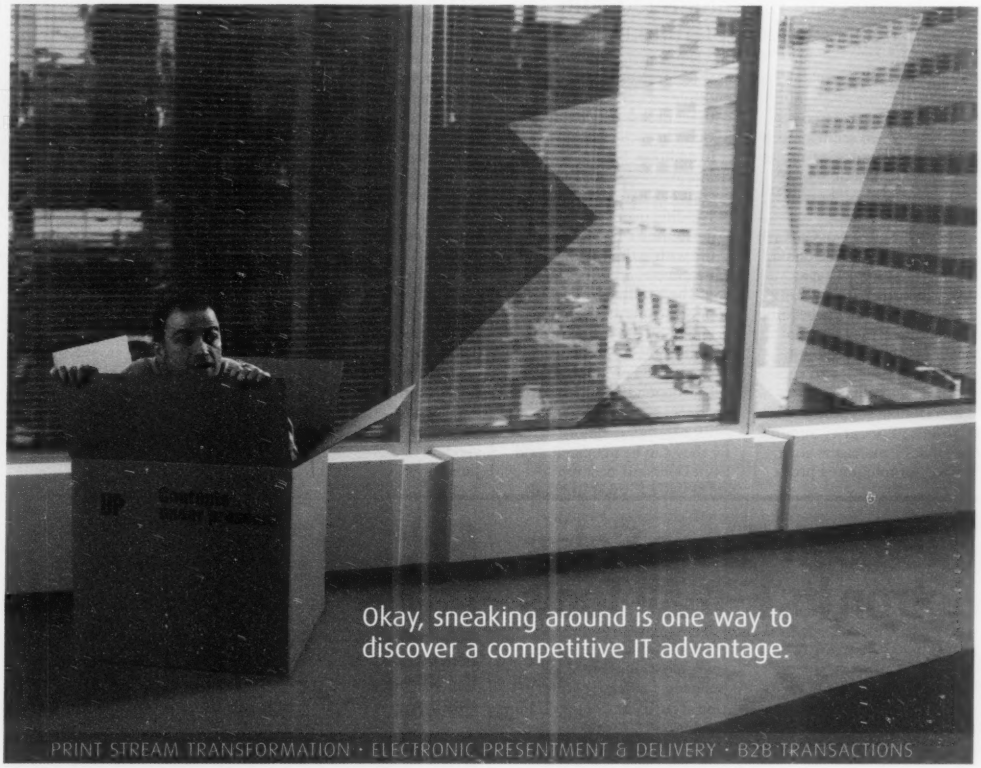
Dynamics AX 4.0 also includes an enhanced sales-order configuration tool that lets users more easily configure nonstandard products requested by customers, Blyth said. Thus, Oldcastle can more easily fill orders for products that may have unusual colors or dimensions, he said.

Blyth said he expects that the new release's integration with the latest versions of Microsoft's infrastructure software, such as the SQL Server 2005 database, will let him double the number of end users on the system without having to add servers.

He also expects Dynamics AX 4.0's tight integration with the Outlook user interface to make it easier for workers to exploit its new features without retraining. "We're hoping to teach them the business, not the software," Blyth said.

Richard Barnett, director of product marketing for Dynamics AX at Microsoft, said the use of Web services lets AX 4.0 access data from multiple Microsoft applications, as well as products from other vendors.

Its tight linkage with Office and other Microsoft products should make Dynamics AX 4.0 competitive for smaller companies and subsidiaries of large corporations, said Ray Wang, an analyst at Forrester Research Inc. ▸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Best-of-Breed Security Tools May Be on Way Out

Companies can tap integrated suites or security services, IT managers say

BY JAIKUMAR VIJAYAN
WASHINGTON

WHEN IT comes to security technologies, forget about best-of-breed tools. Think "best of need" instead.

That's the advice of Gartner Inc. analyst Neil MacDonald, who said last week that as antivirus, antispam and antispyware tools quickly become commodities, they may no longer justify the premium pricing associated with specialized technologies.

MacDonald suggested at Gartner's IT Security Summit here that IT managers start looking for integrated products or services that combine multiple security functions without necessarily being best-in-class in each case.

In addition, MacDonald recommended that IT security groups evaluate the possibility of handing over some security tasks to the IT operations staffs within their companies. For example, antivirus tasks could be handled by desktop support teams and patch management by the software distribution group, he said.

Converged products make sense, depending on how well products bundled in suites work together and how easily they can be managed, said Sven Doersam, desktop security lead at Johns Hopkins University in Baltimore.

The university is investigating products that combine personal firewalls and antivirus and antispyware capabilities in a bid to reduce the number of security products deployed on its desktops, he said.

"I think we would realize some cost benefits from such products, and it will give us a single point of contact" for support, Doersam said. However, the approach will mean "putting all our eggs in one basket and relying on one vendor" for crucial security defenses, he added.

Marty Wake, senior vice president of IT at Mercantile Safe Deposit & Trust Co. in Baltimore, said he expects vendors to increasingly offer integrated security suites as the individual tools become more commonplace and mature. In fact, he predicted that enterprise-class antivirus, antispam and antispyware capabilities will soon be built into broader suites as "giveaways."

IT SECURITY

Best of Breed vs. Best of Need

As security tools become commodities, companies should:

- Evaluate the option of turning over management of security functions to the operations group.
- Take advantage of converged network or host-based security technologies.
- Consider products that offer good-enough protection rather than the best possible protection against every threat.

SOURCE: GARTNER INC., STAMFORD, CONN.

Wake also said that as operating systems and applications become more secure and as communications and Internet service providers begin to integrate security into their services, a consolidation of security tools vendors looms, along with reduced prices for their products. "I think we will be able to spend less money on security products" in the future, Wake said.

Alex Schjelde, manager of information security at CenturyTel Inc., a Monroe, La.-based company that provides telecommunications services in rural areas, said he expects network operators and Internet service providers to bundle antivirus and antispam capabilities into their offerings.

From a customer perspective, "having someone clean out the garbage" before it hits a corporate network reduces complexity and cost, he said.

Meanwhile, Microsoft Corp.'s increasing stable of security offerings is acting as a further catalyst for change, MacDonald said. Even without widespread adoption, Microsoft's mere offering of antivirus, antispyware and other security tools will force other suppliers to cut prices to compete, he said.

For users, MacDonald said that at some point in the future, "I see reduced costs, reduced complexity, better manageability and better integration being collectively better than best of breed."

He suggested that IT managers look at desktop, perimeter and e-mail security tools as well as identity and access management products "to see if there are opportunities to go with converged solutions."

But Miguel Perez, general manager of Santiago, Chile-based software development firm Novared SA, said that large companies are still better off using best-of-breed products. He added that suites of commodity security offerings likely make sense only for small and midsize businesses.

"For big companies, the cost of best-of-breed technologies is not significant compared to what they are risking" by moving away from them, Perez said. And that won't change until vendors start delivering better management capabilities for dealing with integrated security products, he said. ◗

Microsoft Faces Sales Job on Its E-mail Tools

BY JAIKUMAR VIJAYAN

Microsoft Corp. last week brought out its first upgrades of several e-mail security products since acquiring their developer, Sybari Software Inc., last year.

The Antigen products are part of a continuing effort by Microsoft to expand its portfolio of security offerings for both corporate users and consumers. That effort has included several acquisitions in recent years, such as antivirus software makers GeCAD Software and Giant Company Software Inc., ID management vendor Alacris Inc., and SSL virtual private network vendor Whale Communications Inc.

Despite those efforts, some users say they still need to be convinced that Microsoft can be a strong supplier of security tools. "I definitely want to see one or two versions of their products come out" before implementing them, Alex Schjelde, manager of information security at CenturyTel Inc. in Monroe, La., said at Gartner Inc.'s IT Security Summit in Washington last week. "I don't think I'm prepared to be among the first ones to try them out."

Sven Doersam, desktop security lead at Johns Hopkins University, said at the Gartner conference that he plans to evaluate the tools after other sites gain experience with them. "We are going to wait and see" how the products evolve before deciding whether to implement them, he said.

The updated products unveiled last week include Antigen for Exchange, Antigen for SMTP Gateways, Antigen Spam Manager, Antigen Enterprise Manager and the Antigen Messaging Security Suite, which combines antivirus, antispam and content filtering for Exchange Server 2003 and Exchange 2000 e-mail servers and SMTP gateways.

> **"I definitely want to see one or two versions of [Microsoft's] products come out. I don't think I'm prepared to be among the first ones to try them out.**
>
> **ALEX SCHJELDE,** INFORMATION SECURITY MANAGER, CENTURYTEL

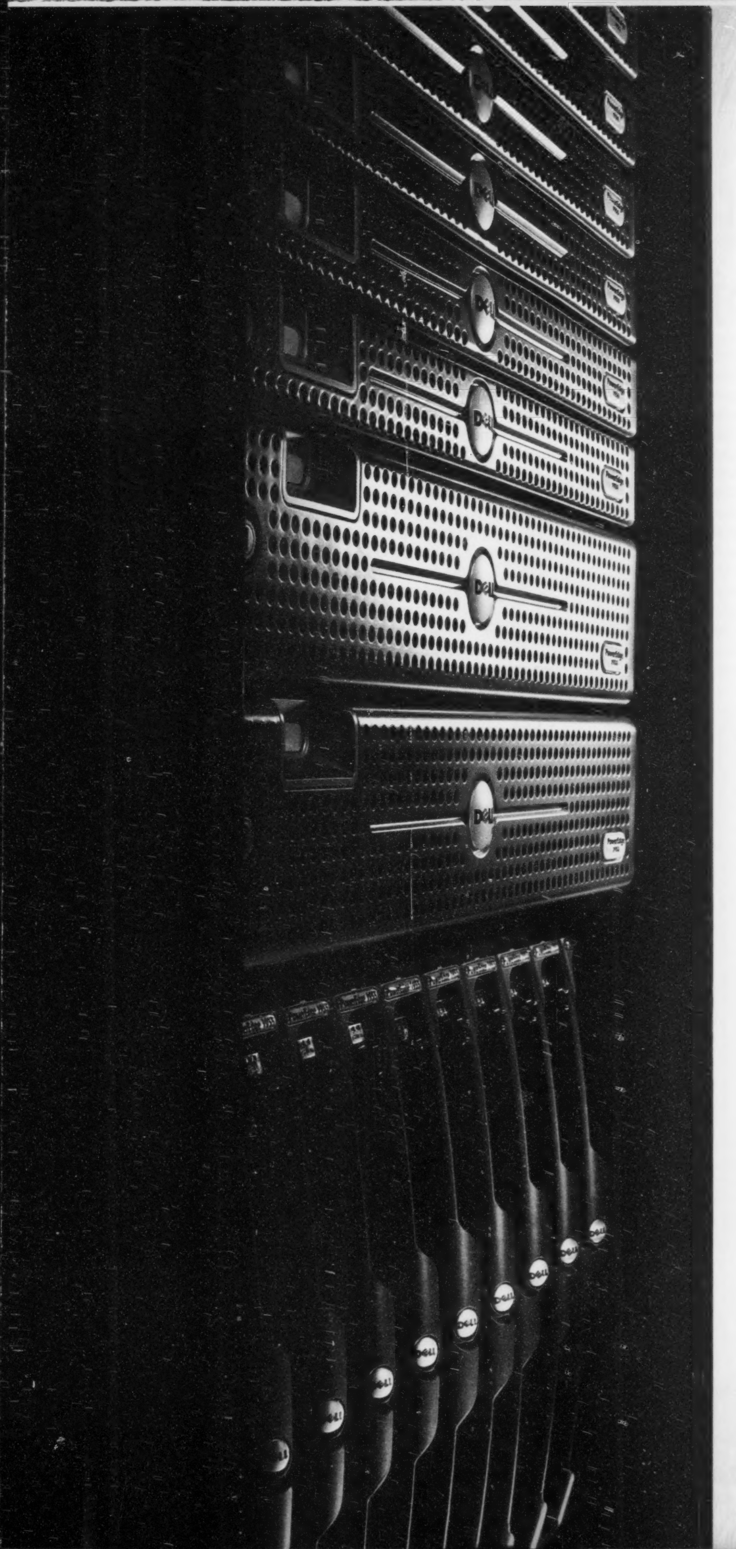
More than 20,000 copies of scaled-down beta versions of the new products have been downloaded from Microsoft's Web site over the past year, the company said. The final version of each of the new packages will be available through volume licensing programs starting July 1, Microsoft said.

Antigen for Exchange starts at $10.50 per user annually for subscriptions of 250 users or fewer, and subscriptions for the Messaging Security suite start at $14.50 per user for similar volumes, Microsoft said.

A key feature of the Antigen antivirus products is support for multiple scanning engines from vendors such as Sophos PLC, Norman Data Defense Systems Inc. and CA Inc. to help users detect viruses, spam and other malware, said Joe Licari, director of product management at Microsoft. The latest Microsoft tools also include a scanning engine, he noted.

Dan Blum, an analyst at Burton Group in Midvale, Utah, said the use of multiple engines at the server or gateway level could prove interesting to enterprise customers.

"However, supporting third-party collaboration and communication products, such as Notes [and] Domino, is not a priority for Microsoft," he said. "Other vendors will still have an edge when they provide more comprehensive coverage for enterprises with heterogeneous messaging, collaboration and communication environments." ◗



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BRIEFS

Microsoft Launches New Vista Beta

Microsoft Corp. last week rolled out the widest beta release yet of its Windows Vista operating system. Windows Vista Beta 2 can be downloaded from Microsoft's Web site. The next full beta version is due in late August, after being pushed back from an earlier release date of mid-July. The new operating system is scheduled to ship late this year for corporate users and in January for consumers.

Red Hat Completes JBoss Acquisition

Red Hat Inc. last week completed its $350 million acquisition of Java application server vendor JBoss Inc. JBoss will operate as a division of Red Hat, with Marc Fleury, founder and former CEO of JBoss, heading the division as senior vice president and general manager. The closing of the sale comes a week after Red Hat disclosed plans to drop its own application server based on the open-source Jonas project in favor of the JBoss product.

EMC Purchases Software Vendor

EMC Corp. last week acquired privately held nLayers Inc. for an undisclosed sum. EMC plans to integrate the company's technology into its resource management offerings. NLayers' flagship InSight product can help users understand and map relationships among applications, servers and devices. NLayers already provides the foundation technology for EMC's Smarts Application Discovery Manager software.

Holding Company Buys Onyx Software

Onyx Software Corp., a vendor of CRM applications, has agreed to be acquired by holding company M2M Holdings Inc. for $92 million. The deal is expected to close in the third quarter. M2M said Onyx will operate as a separate business unit of Made2-Manage Systems Inc., which is also owned by M2M Holdings.

Desktop Phones to Get More Mobile Features

Devices planned with better sound quality, USB ports

BY MATT HAMBLEN

THREE DESKTOP telephone makers last week detailed plans to ship IP-based phones designed to be more user-friendly than existing models and to interoperate with wireless networks and with other devices through USB ports.

The new offerings should begin to bring desktop phones into line with their mobile counterparts when it comes to features such as simplified dialing and text input, said Zeus Kerravala, an analyst at Yankee Group Research Inc. in Boston. He added that until now, desktop models "haven't changed much in the last 30 years."

Avaya Inc. and Mitel Networks Corp. separately announced phones that are due to ship in July. In addition, an official at Siemens Communications Inc. said the company will formally announce a new line of IP-based and traditional circuit-switched phones in the fall, with a user interface that borrows from devices such as PDAs and the Apple iPod.

One of two new Avaya phones

"The focus is on an easy user interface, something we borrowed from consumer electronics," said Joan Vandermate, vice president of product line management at Siemens Communications. The Siemens AG subsidiary will unveil up to six phone bodies that look "radically different" from today's desktop devices, Vandermate said. She added that the new models will include a USB port for connecting equipment such as wireless Ethernet adapters for linking the phones to Wi-Fi networks.

Avaya rolled out two phone models and said it plans to add another two to four by early 2007. The phones will have faceplates whose color can be changed, plus high-fidelity sound and a USB port for external connections.

LifeNet, a nonprofit human organ donation agency, is testing eight of the new Avaya phones at its help desk, which supports nearly 500 end users. Russell Stewart, information systems technical support manager at LifeNet, said he and the help desk workers have noticed a marked improvement in sound quality and ease of use.

That's important for an agency like LifeNet. "Voice communication is paramount to us, compared to data," Stewart said. "To take care of organ transfers, minutes matter to us, and we deal in one world that's both life and death."

From an IT standpoint, the built-in USB port enabled Stewart to use a thumb drive to transfer directory information to the new phones. "It's sort of like sneakernet from the floppy world and makes things a little easier," he said.

Lou D'Ambrosio, Avaya's president of global sales and marketing, said business workers have become accustomed to using wireless and handheld devices as well as applications such as instant messaging. Desktop phones now must interoperate with those products, he said, adding that the upcoming models will also support new applications, including the ability to display security camera feeds on their screens.

Mitel announced a pair of IP phones with a focus on ease of use and high-fidelity sound. The company is also adding a wireless phone stand that can give some of its wired models Wi-Fi connectivity, either as an access point that can be reached by several handsets or as a client device that can be moved around within offices. ▸

Google Steps Into Ring Against Microsoft Office

BY ERIC LAI

Web-based word processors and spreadsheets may promise easy end-user collaboration and low costs, but they're unlikely to bump Microsoft Corp.'s Office suite off of corporate PCs anytime soon, according to users and analysts.

Google Inc. last week announced a limited test release of Google Spreadsheets, a set of hosted tools designed to let users create, store and share basic spreadsheets on the Web. The software joins a collection of products, mostly from much smaller vendors, that are being offered as alternatives to Office's components.

However, using Google's technology to process contract proposals and other corporate documents will be "a stretch, at least in the next several years," said Melissa Webster, an analyst at IDC in Framingham, Mass. She added that Google has yet to create a full software-as-a-service business model. For example, Webster said, it "doesn't have any protections in place for enterprise data [and] doesn't have guarantees of service."

Virgin Entertainment Group Inc., a Los Angeles-based music retailer, would seem to be a good candidate for inexpensive, hosted desktop applications like Google Spreadsheets. The retail industry's profit margins are notoriously thin, and most of Virgin Entertainment's employees need only sporadic access to Office.

But the fit really isn't that good at this point, said Robert Fort, IT director at the Virgin Group Ltd. subsidiary. Fort said he isn't convinced that a Web-based hosted service would be safe enough to meet his security and regulatory compliance needs. Also, the difference in the total cost of ownership between Office and the products offered by Google and other vendors isn't clear, he said.

Fort added that he thinks he can hold the line on software licensing and support fees by installing Office on only one computer at each of Virgin's 17 stores. He also noted that Excel is an integrated component of Virgin's data warehouse and business intelligence system. Any hosted Office alternative would need to support the same capabilities that Excel offers in areas such as calculations and graphing, Fort said.

Google readily admits that its Spreadsheets program now lacks such features. What Google Spreadsheets and its brethren from other vendors offer is the ability for multiple users to share and edit documents simultaneously, often while chatting with one another via instant messages in adjacent windows.

Microsoft has said it will make some collaboration features available via Office Live, one of its own entries into the software-as-a-service market. It's also making collaboration a key aspect of the upcoming Office 2007 upgrade, which is due by year's end. Many of those features, however, will require companies to deploy and support additional back-end software, such as SharePoint Server 2007. ▸

Scheduling App Leads to Rise in Retail Sales

BY MARC L. SONGINI
CHICAGO

Footwear retailer Payless ShoeSource Inc. has started implementing software to automate the scheduling of workers in its 4,600 stores.

Larry Leibach, director of project management at Payless, said Kronos Inc.'s Kronos for Retail application has been successfully tested in the retailer's 23 California stores and is ready to be installed nationwide.

During a session at the recent Retail Systems 2006 Conference & Exposition held here late last month, Leibach said Payless expects that the Kronos software's budgeting, forecasting, scheduling, time and labor, and business intelligence capabilities will ensure that its stores will consistently have the right mix and number of workers, improving customer service and cutting costs.

Payless selected the Kronos software last December, after the vendor agreed to tweak the package to meet the retailer's specific needs, Leibach said. "They have to know our business as well as we do for the best possible configuration of the software," he said.

Kronos also offered tools to link its software to Payless' back-end PeopleSoft ERP applications from Oracle Corp. and with its supply chain management and marketing systems, Leibach said.

The company began rolling out the software in California late last year.

Leibach said the Kronos software can create schedules in 15-minute increments based on variables such as an employee's position or pay scale and any budgetary constraints. It also automatically takes minimum staffing requirements into account, he said.

At first, some employees feared that they would be unable to create their own hours, and managers said that they didn't need a computer to write a schedule. But after that initial resistance, the system was quickly accepted, Leibach said. "A schedule is only as good as the associates' availability and flexibility. We need their support on this," he said.

The benefits of the California test implementation so far include increased sales thanks to improved and more-standardized customer service, said Leibach. In addition, the improved scheduling allows employees to complete tasks without sacrificing face time with customers, he said.

Payless will start the national rollout in September and expects the work to be completed by next spring.

Nikki Baird, an analyst at Forrester Research Inc., said the software is more likely to work successfully in a chain of small stores, such as Payless, because managers don't have to optimize the schedule of a large group of workers simultaneously.

"It's easy for the technology to outpace the process," she said. "You have to think through the organizational challenges." ▸

Payless ShoeSource

BILL RIGBY

PAYLESS plans to use Kronos scheduling software at its 4,600 stores.

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GLOBALDISPATCHES

An International IT News Digest

IBM to Triple Spending On Indian Operations

BANGALORE, INDIA

IBM WILL invest $6 billion in its operations in India over the next three years, Chairman and CEO Samuel Palmisano told about 10,000 of the company's employees here last week.

The planned investment is three times the amount that IBM spent in the country over the past three years, according to Shanker Annaswamy, managing director of IBM India. He said the additional money will be used to expand IBM's workforce throughout India and to fund several projects, including an upgrade of a lab in Bangalore that develops so-called high-performance on-demand technology offerings.

IBM also plans to set up a telecommunications research center at its Delhi research facility, according to Annaswamy.

The company's Indian operations, which have about 43,000 employees now, are already its largest outside the U.S.

The expansion plans are part of a strategy to make "significant investments" in emerging markets, such as India, China and Brazil, that offer a growing potential customer base and vast pools of qualified workers, said Michael Cannon-Brookes, IBM's vice president of business development in India and China.

■ JOHN RIBEIRO, IDG NEWS SERVICE

GLOBAL FACT

$1.5B

Predicted revenue in 2009 from services related to mobile instant messaging in Europe.

SOURCE: VISIONGAIN LTD., LONDON

Philippine Government Looks to Integrate IT

MANILA

THE PHILIPPINE Commission on Information and Communication Technology (CICT) plans to hire external consultants to standardize the hardware and application requirements of government agencies and help enforce the integration of systems.

Ramon Sales, who was named the CICT's chairman in late April, said this month that he has directed the head of the commission's Human Capital Development group to organize a team of IT consultants that is intended to serve all 370 of the national government's agencies.

"We need to define the hardware requirements [of agencies] and next bring the applications that would run on top," he said.

Sales added that the consultants will also help create IT service centers to help ensure that Philippine agencies meet data backup and disaster recovery requirements.

■ LAWRENCE D. CASIRAYA, COMPUTERWORLD PHILIPPINES

Wipro Agrees to Buy Retail Services Firm

BANGALORE, INDIA

OFFSHORE IT services firm Wipro Ltd. has agreed to acquire Enabler Informatica SA, a Porto, Portugal-based company that does technology work for the retail industry.

The deal is valued at €41 million ($52.7 million U.S.) and is expected to close within 30 days, according to Bangalore-based Wipro.

Enabler, which was spun out of the IT unit of Portuguese retailer Modelo Continente SGPS in 1997, has approximately 300 workers and had revenue of about €30 million ($39 million) last year, Wipro said.

Sudip Nandy, chief strategy officer at Wipro, said the acquisition is part of the company's strategy of buying small IT services firms that specialize in niche markets. Wipro has acquired five other small companies in recent months, Nandy said. ▸

■ JOHN RIBEIRO, IDG NEWS SERVICE

Compiled by Mike Bucken.

Briefly Noted

China Netcom Group Corp. in Beijing will sell its Asia Netcom subsidiary to Ashmore Investment Management Ltd. and Spinnaker Global Opportunity Fund Ltd. for $168.84 million U.S. China Netcom will continue to use telecommunications services provided by Asia Netcom after the acquisition, which is expected to close within 45 days.

■ STEVEN SCHWANKERT, IDG NEWS SERVICE

Oracle Corp. has named Derek Williams to the new position of chairman at its Oracle Asia-Pacific and Japan unit. Williams was previously the unit's executive vice president. In addition, Brian Mitchell was named senior vice president in charge of the Asia-Pacific region, excluding Japan. Mitchell had been responsible for Asia-Pacific strategy, business planning and acquisitions.

■ STEVEN SCHWANKERT, IDG NEWS SERVICE

Corrs Chambers Westgarth, an Australian law firm with 920 partners in six cities, is standardizing on Cognos Inc.'s Cognos 8 business intelligence software. Colman Kenna, financial information systems manager at Corrs Chambers Westgarth, said the Cognos software will create a central reporting repository.

■ COMPUTERWORLD TODAY (AUSTRALIA) STAFF

SOA Update Sparks Demand for Retirement Plan Application

Unanticipated use forces Vanguard IT to scramble to add hardware support

BY HEATHER HAVENSTEIN

Just three months after deploying an application that allows consumers to obtain retirement plans online, The Vanguard Group Inc. is scrambling to add hardware capacity to meet unanticipated demand for the service, which is based on a service-oriented architecture (SOA).

The new online program is already generating some 4,000 retirement plans per week, compared with the 1,500 to 2,500 total projected by the firm, said John Dalton, a principal at the IT division of Valley Forge, Pa.-based Vanguard Group.

The mutual fund and retirement planning company completed a pilot program to test the new SOA-based Web interface to its Vanguard Financial Plan (VFP) service in March. The program automatically generates customized 10-to-20-page investment plans based on data entered by a consumer.

Capacity Challenges

"That volume creates lots of capacity challenges," Dalton said. The company's original plan called for the service to use up to 2% of the capacity in Vanguard's Unix servers, but the unexpectedly hefty use of the system requires 10% to 15% of system capacity, he noted.

"We are in the process of increasing the number of and speed of CPUs and will vertically scale out and run services on different boxes over time," Dalton said.

The service previously required that consumers provide data to financial planners over the telephone. The planners then entered the data into the VFP application and sent the resulting plan back to the client.

That service had generated about 15,000 reports a year, Dalton said.

The new online interface is built on top of the J2EE-based VFP application that runs on IBM WebSphere application servers.

The VFP application uses an underlying advice engine that was built as a service and uses asynchronous messaging to generate a retirement plan based on input from users, said Jeff Dowds, a principal at Vanguard's retail systems division.

Because the online service reduces the number of phone calls between clients and planners, the company now can provide plans to five times the number of clients at a tenth of the cost, Dowds added.

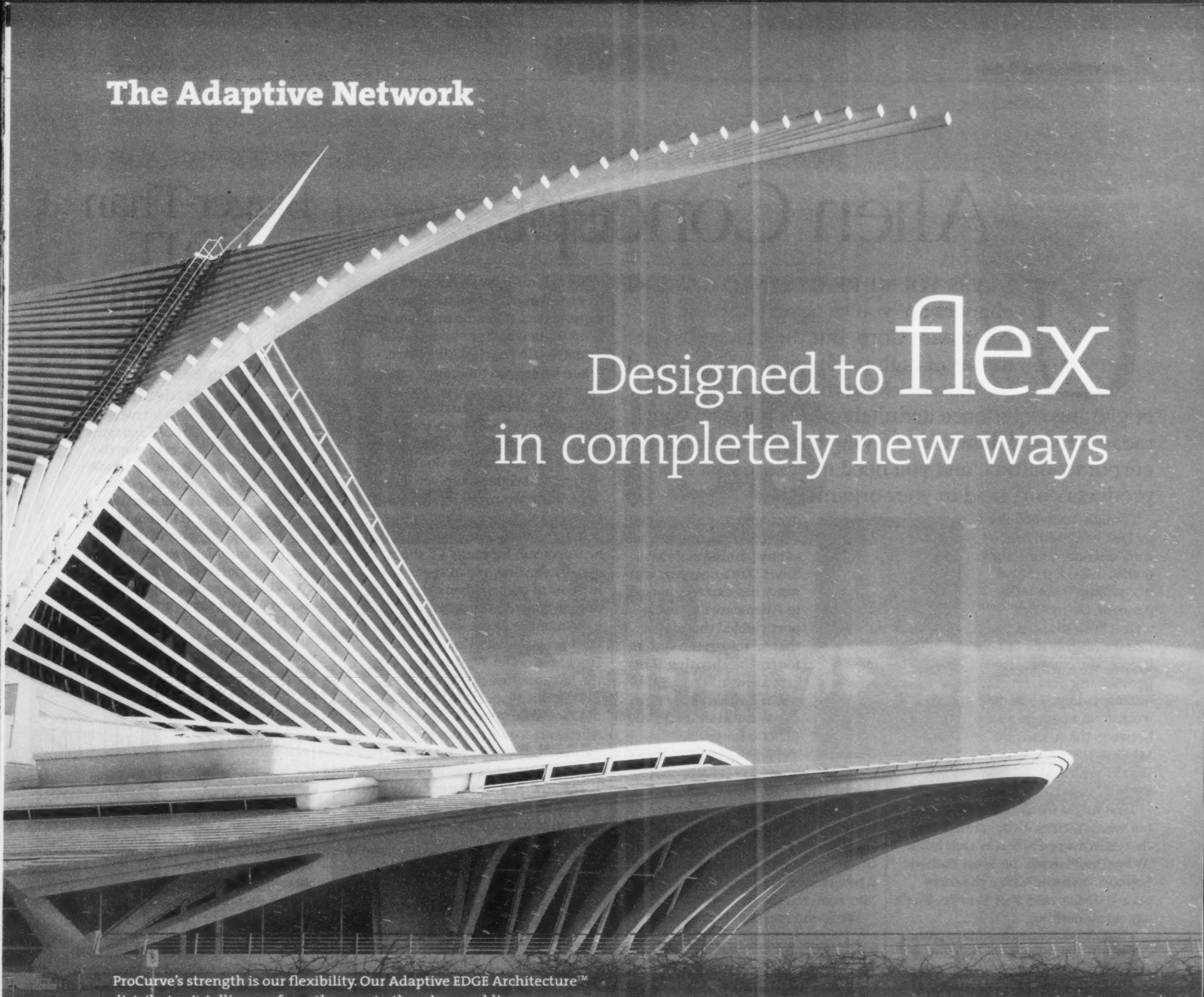
"We've been able to take our advice platform and truly scale it," he said. "We've been able to expose it across multiple channels without having to rewrite the platform."

The program is available without charge to those with more than $250,000 in assets and for $1,000 to those with $100,000 to $250,000 in assets, Dowds said. The service isn't available to consumers with less than $100,000 in assets.

Jason Bloomberg, an analyst at ZapThink LLC in Baltimore, said capacity is becoming an issue for many companies using customer-facing, SOA-based applications.

The need for policies that outline for the architecture team how many users may be accessing a service and how many may access it at one time becomes even more important with these external applications, he added.

"You don't want to hard-code your capacity planning," Bloomberg said, "because if you do have to put in new servers, you have to rewrite your service." ▸



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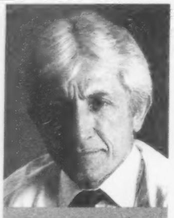
DON TENNANT

Alien Concept

UNLESS YOU'RE REALLY INTO GAMING, chances are you've never heard of Alienware Corp. But the Miami-based maker of high-performance PCs geared for those seeking the ultimate computer gaming experience definitely needs to be on your radar screen. Alienware is trying hard to infiltrate the corporate market, and you need to ensure that its products don't land in your organization.



DON TENNANT is editor in chief of *Computerworld.* Contact him at **don_tennant@computerworld.com**.

Though it was acquired by Dell in March, Alienware operates as a wholly owned subsidiary. And it's nothing if not independent. Go to Alienware's Web site, and you'll find it bragging about how it beat "the competition" in SPEC.org performance testing. Oddly, the mobile workstation contest was between the Alienware MJ-12 m7700i and the Dell Precision M60. Talk about biting the hand that feeds you.

That might trouble Dell, but that's not what matters. What matters is that Alienware also beats Dell in the "Who Can Provide the Most Pathetic Support" contest. Given the sorry state of Dell's customer service, that's saying something.

My son Dan is a heavy-duty gamer who's pursuing a degree in interactive media and game development at Worcester Polytechnic Institute in Massachusetts. In January 2005, Dan purchased the top-of-the-line Alienware Area-51m 7700 notebook. At a whopping $4,500, it was a substantial investment, but it was the dream machine for anyone who plans to devote his career to game design.

Just two months later, he began to experience problems with it overheating. He consulted Alienware's support forums and found an inexpensive, practical solution: Place bottle caps under the computer's feet to allow for more air circulation.

That alleviated the problem for a while, but after several months it got worse, to the point where it now overheats and shuts down after 10 to 15 minutes of any gaming activity. Since Dan's one-year warranty has expired, his call to Alienware's tech support yielded the advice that he return the system for troubleshooting. That service would cost $259, and he would likely have to pay an additional $400 to $600 for parts.

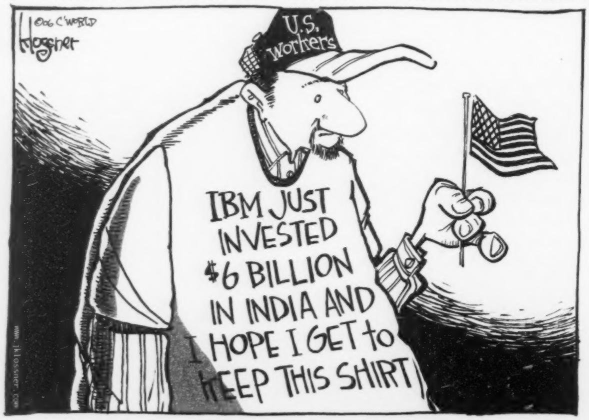
That might have been an option were it not for the fact that with the exception of a lousy one-month warranty on any replaced parts, no warranty was available to protect him in the event of a recurrence of the problem. And a recurrence, Dan and I learned too late, is all too likely.

We found message boards and blogs brimming with tales of woe from Alienware users who have experienced the same problem and from users who have undertaken initiatives to boycott Alienware. When you spend that much money for a system only to learn that there's a design flaw that routinely causes a meltdown after about a year (or sooner, many users lamented), you expect the company to do the right thing: Fix it right or replace it.

The Alienware brand still enjoys substantial cachet among younger computer enthusiasts, and that could be a problem for many IT shops. I'm usually the first one to speak out in favor of taking advantage of the unique contributions young people have to make in the workplace, as I did at last week's *Computerworld* Honors event in Washington. But the last thing we need is the next generation advocating the adoption of Alienware systems. Avoiding Alienware's own marketers, who will increasingly target you and your users, is sound advice as well.

For now, just be aware of the situation. And steer clear of any company that finds doing the right thing to be an alien concept. ▸

Don Tennant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THORNTON A. MAY

Bigger-Than-Life IT Leadership

WHY ARE leadership books so popular? Because leadership — great leadership — is rare today. Sadly, this is true nowhere more than in the IT industry.

In a continuing effort to map the leadership landscape, the IT Leadership Academy recently asked 300-plus first-level IT executives (those who report to the CIO), second-level executives (who report to the first level) and third-level executives the following questions:

1. What percentage of your IT career would you say you were well led?

2. How do you spend your time? If you could change where you spend your time, what would you spend more time on? Less time on?

THORNTON A. MAY is a longtime industry observer, management consultant and commentator. Contact him at **thorntonamay@aol.com.**

On the first question, we were so surprised with the responses that we double-checked to make sure we were listening correctly. But it's true: 20% said they were never well led, 5% said they were well led for more than half of their career, 10% said they were well led about a third of their career and 65% said they were well led less than 20% of their career.

Corroborating the responses to the first question is what I consider a mind-blowing statistic derived from the second question: 75% of the first-level executives said they wanted to spend less time with their bosses. A significant percentage wanted to spend a lot less time, with some going to the extreme of wanting to spend no time at all, with the CIO. Some context has to be considered: Just about everyone surveyed wanted to spend more time with customers, whether that meant line-of-business executives or real cash-money customers.

Assuming that people were rational in their responses — that is, they wanted to spend more time on

COMPUTERWORLD

EXECUTIVE BRIEFINGS

EXECUTIVE GUIDES FOR STRATEGIC DECISION-MAKING

End-to-End Storage Security

Critical data doesn't just live on your hard drive anymore. Here's how to protect sensitive information and documents, whether they're stored on a network server or on a flash drive in an employee's pocket.

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STRATEGIC INSIGHTS FROM THE EDITORS OF COMPUTERWORLD

EXECUTIVE SUMMARY

Securing Storage, Wherever It Lives

STORED DATA is everywhere in the modern enterprise, from the disk drives on application and Web servers to the flash drive on a user's keychain. So are the threats to data, from amateur hackers to professional identity thieves who seek to compromise data in the form of customer records, product plans, intellectual property and other types of electronic documents.

Because of these increasing threats and stricter regulations imposing fines or other penalties for security breaches, storage security is now the concern of everyone from the board of directors to the product designer or sales rep creating a new piece of information. Their weapons in this fight range from network-based encryption hardware to content-scanning software and enterprise rights management (ERM) tools, which incorporate access rights and security settings into individual documents.

Rise of Encryption

To understand the need for storage security, look no further than the headlines blaring the latest case of stolen or lost backup tapes. One high-profile company after another has suffered these incidents, causing untold embarrassment and possible losses of customers. The result has been, not surprisingly, an upsurge in organizations encrypting backup tapes, so that even if a tape is lost or stolen, the information on it can't be used. Driven by demand, leading tape vendors have begun adding encryption capabilities to their backup software and their tape libraries.

It's not just data on backup tapes that's at risk. Any data stored on any storage medium is at risk, whether it's on a storage-area network, a server or an employee's notebook computer sitting in an airport.

Any data stored on any storage medium is at risk, whether it's on a storage-area network, a server or an employee's notebook computer sitting in an airport.

At the Dartmouth Medical School's Center for Evaluative Clinical Studies, operations director Vincent Fusca oversees nearly 7TB of raw medical data. While he says he doesn't know of any successful theft of that data, he's encrypting it to avoid a data breach that could cause the school to lose millions of dollars in research grants.

Encrypting data on servers, notebook computers and even flash drives requires extending encryption beyond the tape drive. On the server or the user's PC, this can be done through software that encrypts data before it moves to the network or to a storage device. It can also be done by appliances that sit on the network and encrypt the data as it moves from the server to the storage device or to another destination on the network.

However, polls show that most companies are still not encrypting most of their data. Their reasons include fears that encryption and decryption will slow application performance, that managing encryption keys will be complex and expensive, and that a lost decryption key (or the disappearance of a certain vendor or product from the market) will leave them with unreadable data.

Another obstacle is that various vendors apply encryption technologies differently, and data may have to be decrypted and then re-encrypted as it moves among different levels of storage. The decryption between, say, a backup device and a server creates a window of opportunity for the data to be compromised.

New encryption technology is easing some of these concerns, such as appliances that use specialized processors to encrypt data at close to wire speed (or the speed at which data flows through the network).

Greater industry adoption of encryption standards is easing fears that customer data will be marooned if one vendor's encryption technology goes out of style, and new technologies are making it easier to manage encryption keys. Some vendors even build encryption capabilities into notebook computers and flash drives that store sensitive data.

Protecting End Points

Other approaches prevent sensitive data from being downloaded to or being used on end points such as customer PCs or handheld devices.

Sophisticated management software can now lock down Universal Serial Bus ports or CD-ROM burners on client PCs to prevent them from transferring data to mobile devices. Some notebooks ship with biometric authentication to protect access to the device itself. A number of vendors offer a combination of software and services that protect data on stolen notebooks or handhelds by retrieving and erasing the data on them the next time the stolen device connects to the Internet.

Some newer technologies focus on the data itself, scanning content for sensitive terms and blocking the transmission of any information that should stay protected within the organization.

An emerging class of data-classification or information content management offerings promise to help set policies and access controls on sensitive data buried in unstructured data sets such as text documents and e-mail.

In the long-run, much of the storage security load might be carried by ERM software. This requires users to classify data as they create it, specifying its level of sensitivity and the type of access that can be allowed to it. With ERM, the level of encryption and the access rights provided to a document travel with the document as it moves across the network, or even outside of it to customer or business partners.

At least for the next few years, however, ERM acceptance will be held back by questions about broad application support, interoperability across ERM products from multiple vendors and slow response times as users outside the corporate network wait to be authenticated by the corporation's ERM system.

Finally, ERM — like virtually any storage protection technology — is only as good as the security policies on which it rests. For example, ERM requires clear, consistent and understandable data categories that reflect how an organization actually handles information.

Creating a security policy can be a daunting task because it requires an understanding of all the various types of information an organization stores and reaching agreement among all parties about how available, versus how secure, each type of data should be. This process requires cooperation from users and managers across the organization. It also requires managers to focus on creating policies that focus on the most important threats, are clearly understandable by all users and that are enforceable.

Ensuring end-to-end storage security sometimes requires finding and prosecuting hackers, or penalizing employees who didn't follow proper security policies. In those cases, security managers may need to understand general forensics rules such as handling the evidence as little as possible and establishing and maintaining a chain of custody, as well as computer-specific rules such as never examining the evidence on the same system that created it.

Given all these requirements, storage security can seem like an impossible task. But by starting with an analysis of the needs of the business, security managers can create policies that explain to every user what data is most crucial and most in need of protection. Only then is it possible to choose the right technology for each storage security requirement. ■

Dealing with the Paper Trail

We're living in an era in which compliance is forcing organizations to protect certain types of information and documents. At the same time, there are more and more ways for this data to leave the office – ranging from instant messaging to USB drives.

And then there's old-fashioned paper to consider. Dumpster diving, illicit copying and faxes are how paper-based information can get out of the office and into the wrong hands. However, there are technologies that can help organizations prevent the data from being printed out in the first place. They include permission-based printing and printing documents with watermarks and bar codes, in order to restrict and track the distribution of printed documents.

In Japan, the Bank of Nagoya is installing a system based on radio frequency identification (RFID) technology to help manage sensitive paper documents. Important documents will have embedded RFID tags, which can be read by omnidirectional antennas mounted on filing cabinets and other office equipment. While the system won't restrict the printing of documents, it will help track the location of important paper documents and manage inventory.

In the wake of recent headlines detailing the loss or theft of customer records and other files, security of enterprise data has emerged as a top concern of IT shops everywhere. This report discusses the primary security pain points in enterprise storage setups – including desktop computers, tape, and even portable USB drives – and explains strategies that IT managers can use to lock down sensitive data and documents. Also included in the report are articles about endpoint security, encryption, data classification and managing document access.

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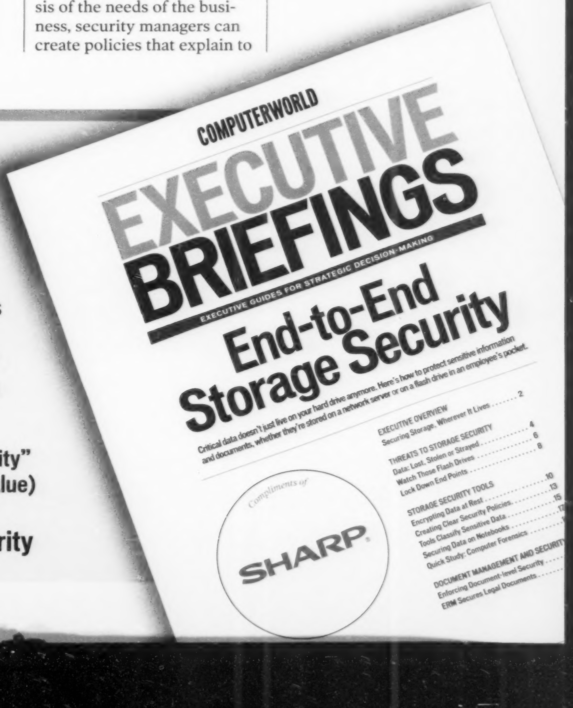

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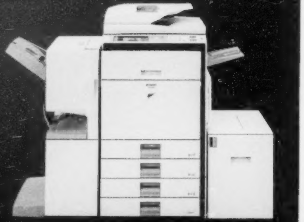

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higher-value activities — the question becomes, Why don't IT workers find time spent with their bosses a higher-value activity?

This brings to mind the thinking of the late James Freedman, former president of Dartmouth College. He once wrote that American college students were rich in idealism and altruism but poor in role models. "They are not so much indifferent to idealism as uninspired by their elders," he said. The same situation appears to be true in IT shops around the world.

What do I read into the survey results? That IT leadership has to be inspirational — it has to be bigger than life and much bigger than make-the-numbers-this-quarter whack-a-mole.

Some CIOs have figured this out and are ready to ride with the CIO Posse. (Some background: The CIO Posse is what a group of CIO emeriti call themselves. They are regular participants in the CIO Boot Camp, a program focused on upgrading the leadership skills of those who would lead IT in their corporations.)

We asked the CIO Posse what their biggest surprise was when they first sat in the CIO hot seat. To a person, they said it was the shock of realizing that "I had to be bigger than me." They had to be bigger than Tom (Mantz, formerly of Praxair), Bruce (Barnes, formerly of Nationwide Financial Services), Ken (Harris, formerly of Pepsi, Nike and The Gap), or Anita (Ward, formerly of Safelite AutoGlass). They had to take on the persona of a leader. They had to become bigger than life, recognizing that everything they said or did — every gesture, word and facial expression — sent a message and set a tone.

The days of the CIO as your best pal are over. It is time to lead! ◗

DOUG LEWIS

Don't Send An E-mail — Listen!

I WAS MENTORING Sam, my IT manager. He wanted to send a lengthy e-mail to everybody in the organization explaining why their complaints about spam were unfounded and unfair. I suggested that he instead ask everyone interested in spam infestation to stay after the next weekly staff meeting. "Why?" he asked. "I can get the facts out better through an e-mail."

"Yes," I said, "but you can't *listen* through an e-mail." I explained that service providers, such as IT, live or die by their ability to listen to their customers and react as personally as possible to what they hear.

He was skeptical but agreed to participate in the meeting if I would facilitate.

Following the staff meeting, I asked all those who had been having spam problems or were just interested in the subject to stay for 20 to 30 minutes. Most of the staff did so.

For the first five minutes, Sam explained what spam was and how we were attempting to minimize its entry into our e-mail system. I then asked people to tell us what they were seeing and how it affected them and their jobs.

There was an amazing outflow. Most of it was new to Sam. Some spam represented severe security exposures. Some constituted embarrassments to the recipients. None of it was technically challenging. So why was Sam surprised?

DOUG LEWIS is a CIO mentor as well as founder and senior partner of The Edge Consulting Group LLC. He can be reached at **edgeconsulting@bellsouth.net**.

Sam's dependence on e-mail for communication with customers created a one-way street: Sam to customer. Sam's customers didn't feel that he was interested in hearing from them. Some knew Sam was very busy, and they didn't want to bother him.

The result was that Sam was cut off from critical information. He was isolated in his office and wasn't hearing what he needed to hear. Unfortunately, the boss's secretary was hearing all those complaints and feeding them to her boss unfiltered. Sam's boss was getting a very negative opinion about Sam's competence.

This all happened in a small office where you could walk from one end to the other in three minutes or less.

Sam isn't that different from many who make their living in the technology arena. Their immersion in all things technical, their avoidance of emotionally difficult situations and their belief that their customers are technically smarter (or should be) than they really are keeps them in their offices banging out technically brilliant e-mails that no one reads.

Smart IT managers visit their customers, especially the unhappy ones. They go to listen — not explain, not justify, not teach, not accuse — just listen. The smartest ones react to what they hear and tell their customers, "I heard you, and this is what I did." Or they say, "I heard you, but I can't do what you ask because. . . ." Even a turndown is better than being ignored if it sounds reasonable.

Smart IT managers with large customer bases assign a staffer to act as an ombudsman, someone who seeks out unhappy customers and sets up meetings with them. The ombudsman isn't a substitute for the IT manager but can locate hot spots before they flare up into major firestorms.

After the meeting, I suggested to Sam that he send e-mails only to broadcast alerts or share need-to-know information. He'd learn a lot if he made a point of personally visiting each department head weekly and set up monthly special-interest meetings. And it wouldn't hurt to make friends with the boss's secretary.

Will Sam change? He will, or he will get "changed." ◗

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READERS' LETTERS

'Build or Buy' Depends on One's Situation

THERE ARE any number of ways to answer the questions "Build or buy?" and "Buy from whom?" ["From Build to Buy," April 3]. In some arenas, laws and regulations require that the buying organization itself exercise due diligence, searching the marketplace itself, performing its own goodness-of-fit analysis and then letting its own competitive bids to the present leading vendors. In other arenas, the buying organization may rely on the analysis of a market research organization, like Gartner, to define the leaders from whom the bids will be solicited. Sometimes, a decision can be made on almost no information at all, hoping against hope that it will be for the best.

However, the marketplace changes, and the leaders today may not be the leaders in 18 months. Since the life span in use of procured software is many times longer than the software improvement cycle, it is a virtual certainty that whatever you buy today will become obsolete before you can amortize it on a standard five-year capital equipment expenditure cycle.

It really boils down to how good an answer you can afford. The cheapest answer – buying the latest and greatest hot thing off the pages of an industry magazine – may actually get you a product that is a very poor fit to your requirements. The most expensive answer may get you the very best product fit, but at a marginal increase in value to your firm, considering the cost of the market research. Gartner will sell you its research cheaper than you can do it yourself, but its research may not actually correspond to the real needs of your unique enterprise.

There is no cheaper or quicker way to deal with these questions than to internally determine, as quickly as possible, exactly what you need the software product to do for you. Once you know that, you can easily tell whether the Gartner research is pertinent, and then use it or research the marketplace yourself.

After all, business is business, the bottom line is really the bottom line, and fashion, reputation and industry recommendations are nothing more to you than means to the end of increasing business value.

David P. Vernon
Senior consultant, Tucson, Ariz.,
vdpphd@yahoo.com.

Don't Scoff at Bird Flu's Potential

IN THE article "IT Execs Take Different Routes on Bird Flu Threat [Page One, April 17], Amy Fowler of the Colorado chapter of the Society for Information Management is quoted: "What are the odds of [a long quarantine] happening? It's never happened where schools have been closed for three months at a go. We have bigger issues in IT than that one." Has Fowler not read of the flu epidemic of 1918, when public gatherings were prohibited and schools were closed? It will be interesting to see what shakes loose.

Dan Pierce
Senior programmer/analyst,
Utah Retirement Systems,
Salt Lake City

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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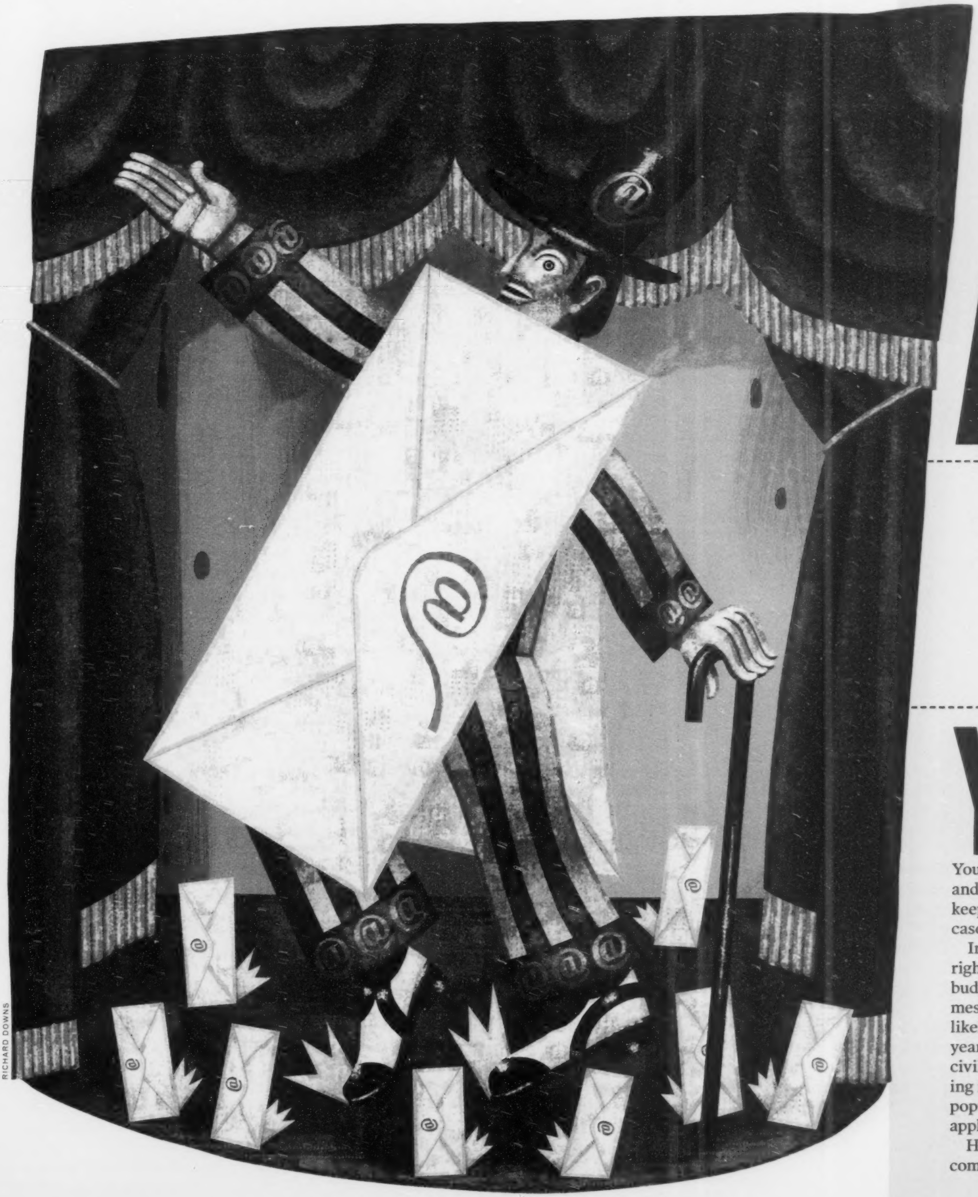
SPECIAL REPORT
THE FUTURE OF E-MAIL

06.12.06



RICHARD DOWNS

E-mail's 2ND Act

Technologies emerging from R&D labs will make e-mail more productive and give it new roles in the next few years.

By Gary Anthes

YOUR COMPANY scans incoming e-mail for viruses and outgoing messages for confidential information. Your spam filter snags most of the garbage, and it gets better as it learns the latest spamming and phishing spoofs. You're encrypting sensitive e-mail now, and you recently completed a project that keeps your messages safely archived in case federal regulators come knocking.

Indeed, with the right technology, the right policies and a little slice of your budget, you can pretty much manage the messaging madness. And new technology likely to emerge from the labs in the next year or two will help bring a little more civilization to the world of e-mail, ensuring its continued place among the most popular and important of all corporate applications.

However, e-mail's problems will accompany it into its second act, especially as users deploy a growing variety of mobile devices and discover new ways of communicating — such as instant messaging, blogs, wikis and virtual reality spaces you've never even dreamed of. These will offer green pastures for hackers, spammers and phishers, and will require a whole new round of defensive tools, techniques and policies.

While today's efforts to improve e-mail are aimed mostly at curing its ills, research in vendor and university labs points to brave new uses for the humble e-mail message, from knowledge mining to workflow enhancement. Interviews with researchers, futurists and IT managers yielded the following conclusions about the future of e-mail.

1 New technologies, plus economic and political pressures, will eventually tame the malware.

Ray Tomlinson, a principal engineer at BBN Technologies in Cambridge, Mass., calls the struggle against spam, phishing and malware "pretty much a draw" at present. He has a good deal of perspective on these issues, having sent the world's first network e-mail message in 1971.

Tomlinson points with hope, but some exasperation, to alternate — some would say competing — proposals for stemming the tide of offensive, malicious and deceptive e-mail.

"It's not so much a hard technical problem; it's a hard business and political problem," Tomlinson says. "The players have vested interests in the various approaches, and they are fighting tooth and nail to get their approaches adopted. It's not the end users who are the bottleneck here."

Microsoft Corp. is pushing its Sender ID Framework, which verifies that a message was actually sent from a server authorized to send mail for the domain owner. John Scarrow, Microsoft's general manager of antispam and antiphishing strategy, says Sender ID has been adopted by 73% of Fortune 100 companies and is used for 31% of all e-mail messages.

"We are seeing the amount of spam now starting to plateau," he says. "It's a good indication the industry is starting to take a good bite out of the economics of the business."

More good news, Scarrow says, is that while IM and other modes of electronic communication also need to be protected, the technology for doing so is similar to that for e-mail.

Meanwhile, Yahoo Inc. and Cisco Systems Inc. last year submitted to the Internet Engineering Task Force a proposed standard called DomainKeys Identified Mail (DKIM), which, like Sender ID, is designed to guard against spoofing and phishing by authenticating an e-mail sender. DKIM verifies the domain of the sender and also cryptographically verifies the integrity of the message.

In addition to Sender ID, Microsoft has the SmartScreen filter, which uses statistical techniques to learn what's spam and what isn't, and the Phishing Filter add-in for the MSN Search Toolbar. But those tools are not enough, say the folks at Microsoft Research, where some 40 people work on new e-mail technology.

For example, researcher Joshua Goodman says the ultimate solution could be a four-pronged defense against spam called SmartProof. Here's how an experimental version of it works:

- First, a machine-learning filter, similar to SmartScreen, snags the obvious spam and quarantines it or throws it away. The filter passes on to the user's in-box any message that is from someone on the user's "whitelist."
- Messages suspected of being spam trigger replies to the senders, challenging them to prove they're not spammers.
- Senders may respond to the challenge by solving some kind of a puzzle — one that's easy for a human but hard for an automatic spam generator.

Continued on page 26

E-MAIL AUTHENTICATION: The Choices

SOME OBSERVERS criticize IT vendors for not agreeing on a single, standard way for dealing with evil e-mail. The key e-mail authentication protocols are Microsoft's Sender ID Framework (SIDF), with its Sender of Policy Framework (SPF) records, and the rival Yahoo/Cisco DomainKeys Identified Mail (DKIM).

But a good case can be made that e-mail senders, Internet service providers and e-mail recipients should use both SIDF and DKIM.

"Domain owners are well advised to publish information using both standards, and e-mail recipients can use both standards to help filter spam," says Richi Jennings, an e-mail security analyst at Ferris Research Inc. in San Francisco.

But, he adds, "DKIM is better because the methods used to verify that the sender was authorized to use that domain are stronger. SPF/Sender ID has issues with mail lists and other things that autoforward mail."

DKIM is stronger, Jennings says, because it generates cryptographic hashes of content using keys owned by the e-mail sender's domain, while SIDF is simply based on which IP address the message comes from. "This means that DKIM is harder to set up and a little more expensive in terms of computing horsepower," he says.

John Scarrow, Microsoft's general manager of antispam and antiphishing strategy, agrees that the approaches are complementary. "By utilizing both, e-mail senders receive optimal protection and functionality across the board," he says. He acknowledges that DKIM is better for automatic forwarding by servers, such as when a user configures his Hotmail account to automatically forward messages to his Microsoft account.

But Scarrow argues that DKIM requires users to upgrade to both outbound and inbound message-transfer agents (MTA), such as Microsoft's Exchange Server, and affects "about 10% to 15% of computing cycles, while SIDF has no outbound impact to the MTA and negligible impact to any computing resources."

– GARY ANTHES

THE Morphing OF E-mail

Gary Anthes talked with longtime e-mail analyst **Sara Radicati**, *president of The Radicati Group Inc. in Palo Alto, Calif. She says e-mail won't die; it will grow up.*

Q&A

Who's winning the war between e-mail users and the purveyors of spam, phishing scams and malware? I think we are winning a little bit. We are making some headway, and people have adjusted to it as a fact of life.

Will individuals or companies give up on e-mail? We don't see that at all. It's like saying you won't have a phone at home because you get marketing calls.

Will unified messaging take off? It's the idea that you should have one mailbox where you consolidate your voice mail, e-mail, IM and everything else. Only a fraction of corporations have it at this point because it tends to have pretty high price points, and there are compatibility issues with existing systems. It can cost $300 to $400 per person, and that's a lot just so users don't have to go two places for their messages.

How about Web-based e-mail? We see it expanding dramatically. Most people have one or two Web mail accounts, for personal or business or both. We are seeing more corporations looking at those backup accounts to see if they can be legitimate, corporate-endorsed backup accounts. Some are even looking at these for primary accounts.

Doesn't that raise all kinds of security, privacy and control concerns? Those concerns are not necessarily well-founded. Some companies are just very conservative, and some are open-minded.

What other trends do you see? We expect to see much more integration between e-mail, IM and wireless communication. That's the next big wave over the next two to three years.

How about the client side? That's been pretty static for eight to 10 years. I'd expect to see e-mail clients that provide better search capabilities and better conversation-organizing capabilities that help us deal with the large amounts of e-mail on different subjects.

THE WORLD ACCORDING TO
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> **I think you'll see more policies about things like blogging, for instance. As the lines blur on the means for communications, it's going to require more focus on the information conveyed, regardless of the means used to convey it.**
>
> **RICHARD GOLDEN,** VICE PRESIDENT FOR IT INFRASTRUCTURE, CIRCUIT CITY STORES INC.

Continued from page 24

■ Alternately, senders can ensure the delivery of their messages by making credit card-based "micropayments." The payments may go to the recipient, the Internet service provider or a charity, or they can be refunded to the sender if the message turns out not to be spam.

"We thought if we could put all that together, we'd have a great long-term solution," Goodman says. "Obviously, it's a very ambitious plan, and I don't think we ever thought it would happen quickly."

Elsewhere at Microsoft, researchers are working on a prototype called MailScope that monitors e-mail routes and alerts users when significant delays are expected. If MailScope sees persistent delays between, say, Microsoft.com and Berkeley.edu, it warns users on those servers that delays are likely, much as a traffic report notifies drivers of congested routes.

In a related Microsoft project called SureMail, when a message is sent, a system posts a tamperproof notification to a table somewhere on the Internet. E-mail recipients periodically query the table and match notifications with messages received. If they find a notification for which there is no message, they know the message has been lost. Microsoft calls these "silent" losses because they so often go undetected. In controlled experiments over two months, using a variety of e-mail systems and carriers, Microsoft found that one in 140 e-mail messages disappeared without a trace. Delays averaged four minutes but lasted as long as 27 hours.

Despite the extensive research and development, some observers say technology can never completely cure e-mail's ills. Economic and regulatory tools will be needed as well, they say.

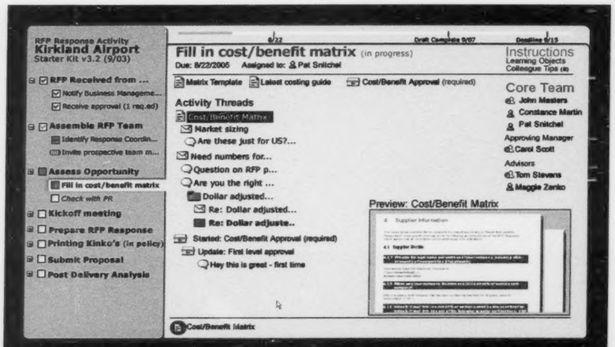
"Ultimately, I believe there will be a pay-per-message type of service that charges to ensure that e-mail is spam-free," says CIO Matthew Lynch at ShopKo Stores Inc. in Green Bay, Wis. E-mail carriers will charge companies a penny or two per message and will in exchange certify those messages as legitimate, he says. Lynch also predicts "stronger legislation around this topic."

A combination of technology, policy and market measures will keep e-mail among the top of all corporate applications, most users say.

"E-mail will continue to be an integral form of communication," says Matthew Marks, head of integrated user services at Aetna Inc. "The capability to quickly and easily distribute a message with an attachment — documents, links, objects, etc. — to a large, dispersed audience with tracking and audit cannot be matched by IM, fax or snail mail."

2 E-mail – just one of the many communications streams in the workplace – will become part of a "puddle," or "activity thread."

Although e-mail seems unlikely to be supplanted by alternatives, the job of the IT manager is nevertheless complicated by the emergence of other options.



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☐ Check with PR
☐ Kickoff meeting
☐ Prepare RFP Response
☐ Printing Kinko's (in policy)
☐ Submit Proposal
☐ Post Delivery Analysis

8/22 Draft Complete 9/07 Deadline 9/15
Fill in cost/benefit matrix (in progress)
Due: 8/22/2005 Assigned to: Pat Snitchel
Matrix Template Latest costing guide Cost/Benefit Approval (required)
Activity Threads
Cost/Benefit Matrix
Market sizing
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Re: Dollar adjuste..
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Core Team
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Constance Martin
Pat Snitchel
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Carol Scott
Advisors
Tom Stevens
Maggie Zenko
Preview: Cost/Benefit Matrix
Cost/Benefit Matrix

IBM's Unified Activity Manager combines e-mails, files and schedules associated with a multiperson effort to respond to a request for proposals. This kind of capability will ship in IBM's next version of Notes, dubbed Hannover.

E-mail is in its "pimply adolescence," says futurist Paul Saffo at the Institute for the Future in Palo Alto, Calif. The problems of spam, phishing and e-mail-borne malware will be conquered, he predicts. In the meantime, he cautions, "you can't treat e-mail in isolation. All of our communications forms are melting away, and we are creating new things out of the puddle of old stuff."

Richard Golden, vice president for IT infrastructure at Circuit City Stores Inc. in Richmond, Va., says these threats will cause corporations to augment their technology defenses with strong policy defenses. He says it's relatively easy to protect e-mail systems with spam filters, virus scanners and the like because the systems are well defined, with discrete messages going from Point A to Point B through corporate IT assets.

"But things are converging into a world that is not as clearly definable as a corporate e-mail system," he says. "I think you'll see more policies about things like blogging, for instance. As the lines blur on the means for communications, it's going to require more focus on the information conveyed, regardless of the means used to convey it."

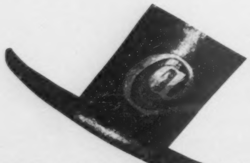
IBM Research is looking for ways to combine e-mail with other functions and integrate it seamlessly into users' daily activities.

"It's not enough to help people manage their e-mail; it's important to help them manage their work," says Dan Gruen, a research scientist at the company's facility in Cambridge, Mass. That involves "connecting all the communications and information feeds around a topic or activity," he says.

For example, an IBM Research prototype called Activity Explorer is a collaboration tool that pulls together e-mail messages, synchronous communication such as instant messages, screen images, files, folders and to-do lists. A project team can establish "activity threads" containing these feeds and can switch easily between asynchronous and real-time collaboration. An activity thread might include the messages, chats and files exchanged among members of a team that's writing a contract bid, for instance.

A more advanced experimental tool from IBM called Unified Activity Manager does all that and more, linking into other corporate applications such as workflow systems. It not only combines the elements of a current activity but also pulls in those elements from past similar activities. These notions of "activity-centric collaboration" will show up in the next release of Lotus Notes, dubbed Hannover, which is expected to ship next year, Gruen says.

Continued on page 32



Clean Sheet OF Paper

USERS COMPLAIN bitterly about e-mail's perils, but technopundits like to point out that the Internet wasn't designed with privacy, security and commerce in mind. What we need is a brand-new Internet – new technology from top to bottom, some say. Two of the people who built the Internet in the 1970s have differing views on that idea.

"I think it would be a very useful exercise to ask what a 'clean sheet' Internet would look like," says Vinton Cerf, chief Internet evangelist at Google Inc. and co-inventor of TCP/IP. "Whether it is possible to implement is a different question. Just trying to introduce IPv6 has been tough. On the other hand, the Internet was introduced at a time when the telephone's circuit-switched network and point-to-point data links were basically all the tools available. Who is to say that starting over is impossible?"

Vinton Cerf

Ray Tomlinson

Ray Tomlinson would. "It's nonsense; I can't see how that could even be done," says the man who invented network e-mail. "I can see little enclaves building up within corporations, for example, that are using some other technology, especially corporations that have multiple sites and are using things going over the base Internet. They might choose to have an alternative network for that, but they are still going to have connections to the standard Internet."

– GARY ANTHES

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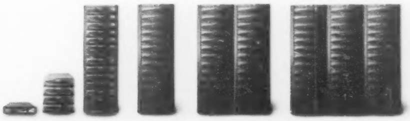

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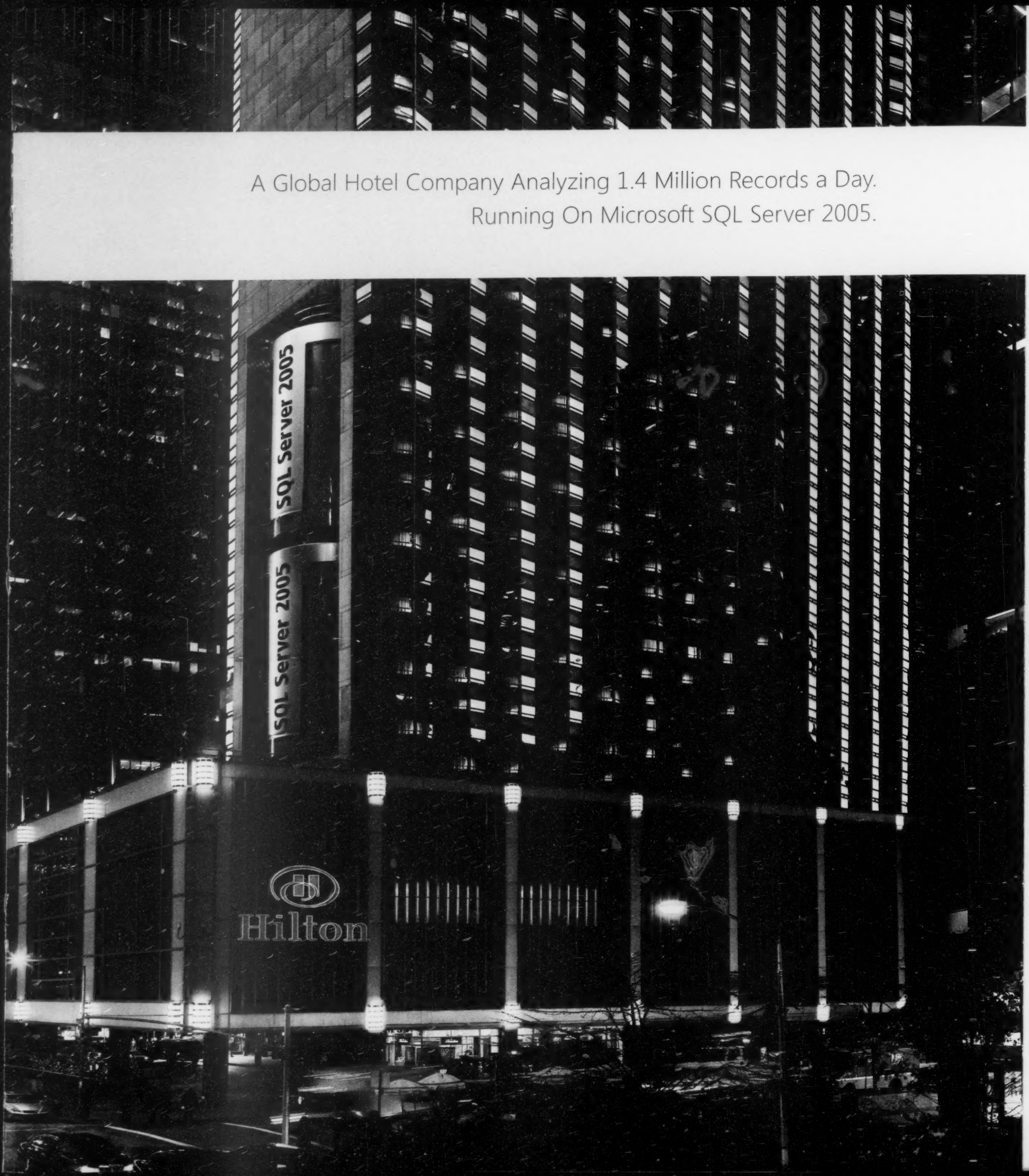

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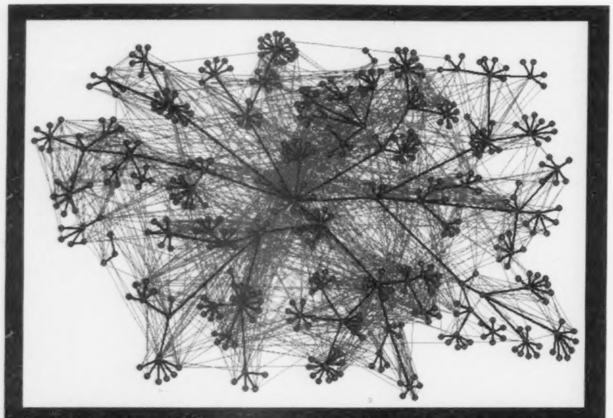

An experimental system at HP Labs shows actual e-mail paths (the gray lines) overlaid on the lab's formal organizational structure (the black lines).

Continued from page 26

Meanwhile, Microsoft Research has developed a way to combine e-mail, files, Web pages, calendar entries, to-do lists and other materials into one searchable archive. Called "Stuff I've Seen," the prototype uses MS Search to index a user's important content and then offers it through a unified interface with sorting, filtering, previews and thumbnail views.

3 New e-mail applications will emerge, including tools that mine message archives for corporate intelligence.

Even as e-mail yields turf to upstarts like IM, especially among younger users, new uses for e-mail are on the horizon. As companies and individuals begin to systematically archive messages, the e-mail becomes available for data mining, and researchers at a number of companies and universities are developing ways to make these archives more accessible.

For example, Hewlett-Packard Co. researcher Bernardo Huberman is devising ways to "harvest organizational knowledge" by mining the e-mail messages and PowerPoint presentations of employees. His techniques go way beyond the searching and categorization of messages that products do pretty well now. Huberman looks at the strengths of communication bonds among employees and patterns of communication that can reveal both hidden problems and opportunities.

"You can look at an organizational chart and make all sorts of inferences about how people work, but when you look at e-mail patterns, you see how they work in a different way," he says. "You discover leadership roles, such as who's the hub through which most of the e-mails go, that you wouldn't identify from the organizational chart."

The result of such pattern or network analysis might be to reorganize departments, projects or activities around those hubs, Huberman says.

HP Labs is now prototyping a tool called Knowledge Navigator that's based on those principles. It applies text mining, clustering algorithms and statistical analyses to employee e-mails and presentations stored on HP's servers. It could handle a query such as, "Who are the top five experts on topic *x*?" Huberman says, even when such expertise is not explicitly noted in org charts or personnel records.

Huberman says this kind of knowledge harvesting will be used by companies internally on their employees and externally on customers, resulting in the ability to generate messages and pitches aimed at both groups.

"What we will see in the next few years is a very targeted way of placing information in the hands of relevant people," Huberman says. "Sure, it can be annoying, but it's better than getting spam on things you don't care about."

Despite the benefits, he acknowledges that mining messages raises ethical and potential legal issues. "In the next few years, we will see a blurring of the boundaries between what is considered private and public," Huberman says.

Mining employee e-mails is "something the company has an interest in, and we are starting to see that interest grow," says Carl Jones, director of collaboration services at The Boeing Co. in Chicago. He says the company has a knowledge management pilot project that, among other things, examines e-mail messages.

> **"What we will see in the next few years is a very targeted way of placing information in the hands of relevant people. Sure, it can be annoying, but it's better than getting spam on things you don't care about.**
>
> **BERNARDO HUBERMAN,** RESEARCHER, HEWLETT-PACKARD CO.

"If you have a business problem, you may be able to mine across the e-mail spectrum and find out, hey, there are people out in the field who are subject-matter experts that can help you," says Jones. But, he adds, "we'll have to be very careful about policies on privacy and so on."

Jon Kleinberg, a professor of computer science at Cornell University, says much can be learned from the networks created by people's activities on the Internet.

"How can you infer that someone is influential?" he says. "Is it the obvious things, like they send and receive the most messages, or is it more subtle things, like they operate at the periphery [of a group] but pull together groups that are otherwise weakly connected?"

Kleinberg says answers to such questions may have profound importance for companies that sell online and rely on word-of-mouth recommendations via customers' e-mail. He's looking into two competing theories as to why that kind of e-mail sometimes leads to snowballing sales and other times fizzles.

"Is it the attractiveness of the product, or is it something about the community of people who are into those kinds of products?" Kleinberg wonders.

He says e-mail pattern analysis could help a company answer questions such as, "Who are the key people to influence?" and "For which products is it worth it, and for which is it not?"

"Social network analysis is one of the great tools for productivity going forward, and very few people understand it," says Thornton A. May, a *Computerworld* columnist and dean at the IT Leadership Academy at Florida Community College at Jacksonville. "People tend to think of social network analysis as a list of people — an address book. But it should tell you not just who knows who, but who knows what as well."

Users should see social network analysis as more than a way to find dates or customers. It can "solve problems, create teams or recombine organizations," May says. ▶

Alternate Realities

IF YOU THINK YOU'VE conquered the ills of e-mail, you ain't seen nothin' yet, says futurist Paul Saffo.

"Look at all the indignation in the corporate world about salespeople using instant messaging to talk to customers," he says. "Some companies have gone to fire these people and found that all their data is out on a commercial-grade IM system and they can't get to it. Then they have hideous Sarbanes-Oxley problems, plus security problems and everything else."

It will get worse, Saffo predicts, when employees install MMORPGs – massively multiplayer online role-playing games – on their desktop computers and when they use their company laptops to travel through online societies like Second Life.

"CIOs worry about improper use of corporate systems by employees. But the bigger problem will be employee use of noncompany systems for company purposes," he says. "If the CIO has a problem getting his head around IM, just wait until he discovers that his employees are creating private lives in Second Life and inviting their clients to come hang out with them."

But at least one IT manager seems to have gotten his head around the problem. "We do not see it as a problem," says Matthew Marks, head of integrated user services at Aetna. "Our Web filtering software blocks specific and whole genres of Web sites from our employees, such as sex, violence, hatred and so on. We already block *www.secondlife.com*. As more of these types of sites become prevalent, the software will filter these out. We also do not allow IM outside of the company, and we do not allow people to download software from the Internet."

– GARY ANTHES

INNOVATIONS IN access

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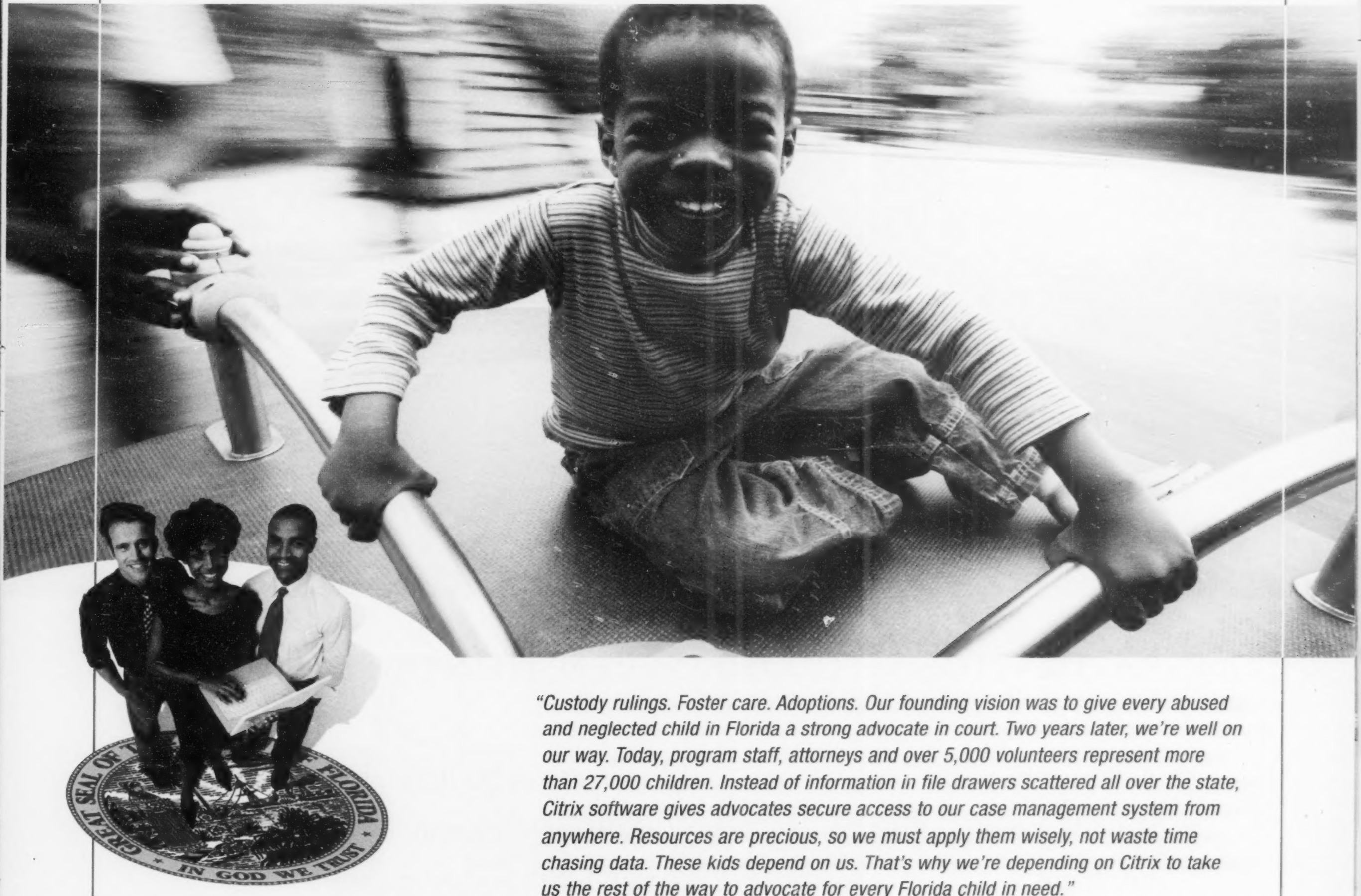

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OPINION

A Public Policy Troika for Techno-Activists

Technologists need to help shape three aspects of the public policy sphere: electronic data collection, Internet censorship in undemocratic nations, and promoting high-tech businesses in developing countries, says Curt A. Monash. **PAGE 43**

SECURITY MANAGER'S JOURNAL

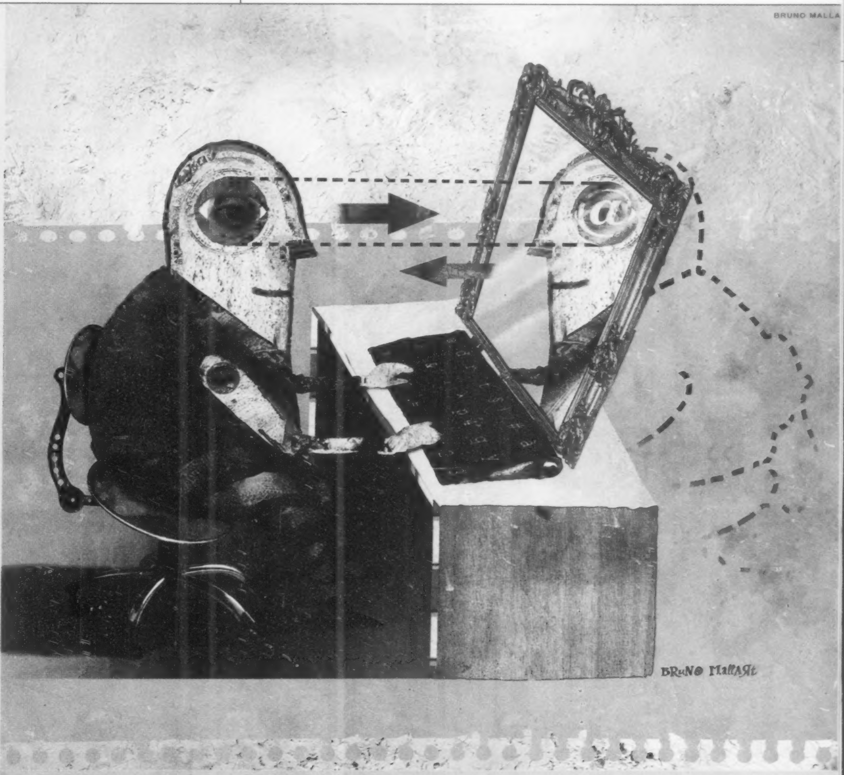
IP Telephony Push Calls for Rushed Assessment

When executives demand immediate access to IP phones, Mathias Thurman must scramble to get the VoIP security pieces in place. **PAGE 40**

Taking the User View

Real-time monitoring tools are moving down from the application and network levels to focus on each user's experience.

By Drew Robb


BRUNO MALLA

AS COMPANIES have become increasingly dependent upon electronic transactions as a primary means of customer interaction, many have found that it's no longer adequate to simply monitor overall performance. For businesses such as Starwood Hotels & Resorts Worldwide Inc. in White Plains, N.Y., monitoring each user's experience has become critical.

Starwood, which owns or manages 700 Westin, Sheraton and other hotels and resorts in 80 countries, relied on its Web site to produce more than $1 billion in booking revenue last year. If customers can't instantly get the service they need, however, they take their business to the competition.

"Unless you are in a unique industry, Internet users probably have hundreds of options, and they are all a mouse click away," says Keith Kelly, Starwood's vice president of Web technology. "Every guest interaction must be handled quickly and flawlessly."

To gain better insight into their service to customers and employees, Starwood and other companies are turning to a new generation of appliances and software tools that let them monitor the level of service for each transaction. Starwood opted for the

Continued on page 38

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[1] Based on published power usage data available from both companies, the IBM LS20 BladeCenter with 2x2.4GHz Dual-Core processors, 8GB of memory, 2 36GB SCSI HDDs, dual Ethernet, dual Fibre Channel can use up to 37% less power than the HP BL25p with 2.4GHz dual-core processors, 8GB of memory, 2 36GB SCSI HDDs, dual Ethernet, dual Fibre Channel. Analysis performed on April 10, 2006. IBM, the IBM logo, BladeCenter, and Take Back Control are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. Intel, Intel Inside, the Intel Inside logo, and Intel Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and/or other countries. Other company, product, and service names may be trademarks or service marks of others. © 2006 IBM Corporation. All rights reserved.

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_THE INVASION

_DAY 16: These servers are so hot, we're running the AC at full blast, and the thermometer is still pushing 140°. Had to relax the dress code in the server room. No choice. It's towels and flip-flops until we get this heat problem under control.

_Gil says he's lost a lot of weight. I hadn't noticed.

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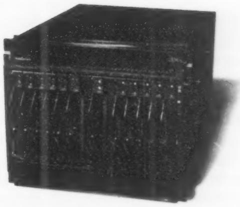
_Oh, apparently HR had a problem with the dress code but couldn't call and tell us, since the phones had melted.



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Monitoring to Improve Best Practices

WHILE REAL-TIME USER-MONITORING TOOLS are generally used to monitor response times for quality of service, companies can also use the tools to improve business practices, says Tony Lock, an analyst at Bloor Research.

"You should start with doing the basics, but then you should also look into the collateral benefits you can get from this," he says. "You can improve the business by finding out different levels of efficiency and really look to exploit the information in a business context, not just an IT context."

When analyzing the data, patterns start to emerge. For example, users may be processing a greater number of transactions during certain times of the day, a particular office may be running more transactions per employee than other branches, or an office may be using an application for different processes than other offices. One can look into whether these patterns are the result of differences in employee training or the way different locations have implemented business processes.

"You can get real business information out of these systems, not just the IT information," says Lock. "It could be that one office found a new way of running business processes so they can get more transactions out. If so, spread the word."

But he also cautions that collecting data on usage may run afoul of certain employee privacy regulations, particularly in some European nations. Look into that before using the data to monitor productivity, he says.

– DREW ROBB

Continued from page 35

RealiTea end-user monitoring system from TeaLeaf Technology Inc., installing the San Francisco-based vendor's tools on passive capture appliances and servers. The data it obtained helped Starwood spot defects earlier, resulting in better performance and availability metrics, fewer help desk calls and less chatter about Web site problems in Internet discussion forums. Other companies use the tools to measure the effectiveness of technology rollouts or to reverse-engineer reported bugs.

"If your Web site is or will be an important part of your business, this type of product is no longer an option. It's a necessity," says Kelly.

A Tale of Two Architectures

Traditional system- and network-monitoring tools do a good job of looking at the overall health of IT systems but don't provide visibility into the experiences of individuals, even though it's the individual's experience that matters. For example, diners care less about a restaurant's rating in the Zagat guide than they do about whether they have to wait an hour to be served.

"Slow response times can cause impatience, frustration and errors as users press keys multiple times and potentially duplicate transactions," says Teresa Jones, a senior analyst at Butler Group in Hull, England, in an e-mail. "Most of the existing tools can monitor only one aspect (e.g., the network) and not the end-to-end service."

This is where the new tools come into play. These products, which provide data on individual transactions, are offered by niche vendors like TeaLeaf and Coradiant Inc., as well as by vendors of systems management products, such as Mercury Interactive Corp., Quest Software Inc. and Compuware Corp.

"There is a huge variety of tools provided by all the major systems management vendors and niche players," says Tony Lock, an analyst at Bloor Research in Towcester, England. "Their sophistication and their applicability to different services has gotten a lot better in the last few years."

There are several approaches these tools take. One is to use agents, either on a company's own desktops or as a hosted service at remote locations, that periodically run a script to execute a transaction on the firm's servers. These provide some insight, but not about what actual users are doing.

Other tools sit as agents on workstations to monitor response times or on the network to capture data. They provide data on actual user experiences and are necessary for public Web applications where companies can't install user agents. For example, AutoTrader.com LLC, whose Web site lists more than 3 million vehicles from 40,000 dealers and 250,000 private owners, chose Compuware's ClientVantage devices, because they don't require the use of agents.

"It is not feasible to have collection agents installed on an auto shopper's PC," says Paul Leadingham, director of technical operations at Atlanta-based AutoTrader.com. "By 'sniffing' end-user network timings, ClientVantage can draw a complete picture of the auto shopper's experience from their PC at home through AutoTrader.com's application infrastructure, including the elusive 'last mile' metrics."

> **No longer are we estimating how the site performs for each guest. We know.**
>
> **KEITH KELLY,** VICE PRESIDENT OF WEB TECHNOLOGY, STARWOOD HOTELS & RESORTS WORLDWIDE

The drawback is that these types of tools work only when someone is sitting at a computer and generating transactions. And although they work for heavy traffic sites like AutoTrader, which attracts millions of visitors per month, they won't work if you plan on installing a single agent on an employee's desktop as a way to monitor performance of a workgroup. You lose visibility every time he takes a coffee break.

"You can't monitor a transaction from a machine if the platform is not running at all, so you usually end up monitoring a large population of users," says Lock. "By using a combination of both architectures, you can gather a lot of valuable information."

That's the approach Starwood takes. It runs synthetic transaction monitoring, which provides general periodic information on the performance and availability of its site, but supplements that by using TeaLeaf to look at the individual user service levels.

"No longer are we estimating how the site performs for each guest," says Kelly. "We know."

Inside Jobs

Such tools, however, are not limited to monitoring Web site traffic. "The monitoring devices have even been used on many internal and back-office applications to understand AutoTrader.com's employee experience," says Leadingham. "ClientVantage's sweet spot is HTTP traffic, but it has been used for other internal application and network analysis efforts also."

Patrick Clark, technical operations manager at Rexel Inc., a Dallas-based electrical parts distributor with 300 branches in 28 countries, is using Quest's Foglight software to monitor user performance as it embarks upon a multiyear project to replace 16 legacy green-screen systems with Oracle Corp.'s E-Business Suite.

"We were spending all our time chasing down performance problems, most of which were unrelated to our applications. However, we did not have the monitoring and reporting tools to conclusively prove that the applications were not the problem," says Clark.

That changed, however, once Foglight was set up, a process that took three weeks working with Quest's implementation team.

"We immediately gained visibility into the performance of our servers," Clark says. "We also gained insight, as well as statistical information about how our applications were performing in our remote branches."

Don Allen, senior director of IT operations at Drugstore.com Inc. in Bellevue, Wash., and Kamal Jain, director of ASP operations at BrassRing LLC in Waltham, Mass., both use TrueSight appliances from Coradiant. BrassRing provides recruiting services to approximately 15,000 enterprise users and more than 150,000 job applicants on a daily basis. Jain says that it took his staff less than 30 minutes to do the initial setup of the TrueSight appliances. The company now uses TrueSight to report to its clients regarding contractual service-level agreements.

"Users of Web-based applications aren't as willing to accept poor performance and errors as they were in the mid-'90s through 2002," says Jain. "They don't care what your operational or technical challenges are, because there are almost always alternatives to your offering."

Drugstore.com uses its TrueSight boxes to monitor not only its Web site, but also its internal applications. For example, the company is currently upgrading the network at its call center in Halifax, Nova Scotia, and rolling out new tools for customer service representatives there. Allen used TrueSight to establish a baseline level of performance before the rollout and then used it again to demonstrate the success of the project. He also uses it to resolve help desk calls.

The tool doesn't meet all of his needs; he still uses uptime- and network-monitoring tools, and he runs test scripts to check the Web server and query the database. But TrueSight does provide a way to solve problems faster.

"Rather than calling the user and asking them 'What was the error? What did you click on?' we can actually see the user's actions click by click and reverse-engineer what the problem was," Allen says.

Although they may not be complete solutions, monitoring tools such as TrueSight do provide a different view of what's happening, and they improve the problem-solving process when used in conjunction with other monitoring and debugging software.

"You need to know the limitations," says Allen. "It is not a panacea, but it does give you what the user sees." ▶

Robb is a Computerworld *contributing writer.*

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IP Telephony Push Calls For Rushed Assessment

Executives want IP phones on desks now, so our manager has to scramble to get the security in place. By Mathias Thurman

SECURITY MANAGER'S JOURNAL

MY MOTTO is to build security into a project early. Making infrastructure and application changes after a technology has been deployed is very difficult.

That's why, as my company deployed IP telephony for its 6,000-plus employees worldwide, I struggled to find the bandwidth to complete a meaningful assessment. I wanted to make my recommendations before the infrastructure went live.

This ball got rolling about nine months ago, when the company decided that IP telephony would help it cut costs. An architectural issue forced us to abandon the original project plan and switch to an all-Cisco deployment. By then, time pressures had mounted, and as management pushed to get phones on desks, security was in danger of becoming an afterthought.

My assessment would have to be abbreviated and would fall to my small staff, which is already stretched thin. My budget is even smaller, so bringing in a third party to conduct the audit and assessment was not an option.

Cisco's Call Manager and Unity Server are appliances running software that processes phone calls and manages voice mail. Both will become critical elements of our infrastructure. A compromised Call Manager could allow unauthorized access or even a denial-of-service attack. The Unity Server will be tightly linked to our Exchange server, and its security is of paramount importance. It provides what is commonly referred to as "unified messaging." That means the Unity Server is the recipient of all voice, e-mail and fax messages. With unified messaging, voice-mail messages can be converted into e-mail attachments and sent to a user's e-mail in-box.

It's cool technology, but ripe for trouble if not deployed securely. A compromised Unity Server could be hacked, making all of the company's voice mails vulnerable. It's my job to worry about things like this scenario: A voice mail left for our CEO by an executive at an acquisition target could fall into the wrong hands and lead to insider trading; even if no one at the company was involved, the Securities and Exchange Commission would be all over us. Nearly as bad would be the leak of a voice mail from someone in finance that resulted in the premature release of the company's financial report.

The IP phones themselves are another area of concern because they are very different from the phones most people are familiar with.

Next up was the network architecture, which will be responsible for routing and switching the voice packets over our corporate network.

> It's cool technology, but ripe for trouble if not deployed securely.

This wasn't a big worry, since our network team is very competent. Still, separate virtual LANs for voice, data and management and additional router configurations will be needed to secure the environment.

Finally, I had to assess the Cisco Remote Operations Support (CROS), an outsourced monitoring and management service we'll be using for our IP telephony infrastructure.

Microsoft's Part

The implementation of Call Manager and Unity Server is at its heart the deployment of a Windows 2000 server running some Cisco applications. As with any Microsoft installation, there are the usual concerns about service packs, critical updates and viruses. I also wanted to ensure that the operating system was hardened, so I had to remove any unneeded applications and services and make a few changes to the registry.

I also wanted to ensure that proper administrative control and auditing were enabled. The applications provide various levels of administrative access, and those levels must be tightly controlled. As for auditing, the applications can log various types of events, but I had to ensure that it was all enabled so that critical activity will be properly logged and monitored.

I'm glad I decided to take a close look at CROS. Going with this outsourced monitoring and management service made sense for us, given our need for an expedited rollout and our own dearth of people to manage the technology.

I didn't like the first thing I saw: To use CROS, we need to provide a group of technicians employed by Cisco with access to our IP telephony infrastructure. You'd expect that, of course, but there are more than 50 technicians who will at various times be responsible for monitoring and attending to issues related to our deployment.

The more questions I asked about this setup, the more my eyes burned with disbelief. Those 50-plus Cisco employees will use a single account to access our Call Manager and Unity servers. Not only that, but they'll also need access to the routers, switches and gateways that encompass our IP telephony deployment.

A single account with so much access makes me very uncomfortable. Not only is it difficult to track activity when more than one person shares the same account, but we're also essentially providing a level of access that a criminal technician could use to "own" our company's critical network resources. The same routers that will route phone traffic also route e-mail, financial data and a ton of other sensitive and private data that should never be allowed to leave the company.

When I told the Cisco account representative about my misgivings, he acted as if it was no big deal and even said that other customers didn't seem to have a problem with such arrangements. Can I be the only one who sees this as a real problem?

All of these and other issues will go into a report for executive management. In a report like this, I always explain the issue, spell out the risks that attend it and then make recommendations.

In some cases, all you can do is to make sure that the risks are thoroughly understood and then recommend that "executive management will accept the risk." ▸

WHAT DO YOU THINK?

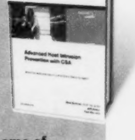
This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com, or join the discussions in our security blogs: **computerworld.com/blogs/security**

To find a complete archive of our Security Manager's Journals, go online to **computerworld.com/secjournal**

SECURITY LOG

Security Bookshelf

Advanced Host Intrusion Prevention With CSA, by Chad Sullivan, Jeff Asher and Paul Mauvais (Cisco Press, 2006).



This book was a good fit for me, given my involvement with Cisco IP telephony (see story at left); the CSA agent is installed on some of the Cisco appliances.

The authors take the reader from threat to solution, with detailed instructions on planning, implementation, configuration and maintenance. They provide a lot of detail for the various phases of implementation, though I would have liked to see more on tuning the policy and incident response.

– MATHIAS THURMAN

USB 'Logic Bomber' Goes on Trial in N.J.

A former USB PaineWebber Inc. systems administrator accused of unleashing a "logic bomb" on the investment company's computer network went on trial in U.S. District Court in Newark, N.J., last week.

Roger Duronio, 63, is charged with securities, computer and mail fraud, according to *The Star-Ledger* in Newark. The indictment states that Duronio was infuriated that his year-end bonus had been slashed. He quit his job in February 2002 and bought about $20,000 worth of put-option contracts that would have increased in value if USB's share price fell from $46 to $40 in 11 days. He allegedly compromised the network, doing damage estimated at $3.1 million, to ensure that the share price would fall. Duronio lost all the money he invested.

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MIME

DEFINITION

Multipurpose Internet Mail Extensions is the fundamental Internet standard for sending multimedia e-mail (containing, for example, audio, video and/or graphics) and messages in non-ASCII character sets. Also used by Web browsers, MIME specifies what types of media a message contains and the form in which it has been encoded.

BY RUSSELL KAY

WE TAKE FOR GRANTED the easy exchange of electronic documents via e-mail. Just click on "Insert Attachment," specify which file, and the job's done. But before 1992, there was no standard way to do this. Back then, if you wanted to send a copy of a document (say, a contract that had been prepared using a word processor, a spreadsheet of financial information or a diagram), your options were quite limited:

- **You could print it out and then mail, fax or deliver a hard copy to the recipient.** This let the reader see the final form, but to make changes or add comments, he had to write them by hand and then send the whole package back to you so you could input the changes.
- **You could save the document on a floppy disk and then either hand it to the recipient or ship it.** This got him the document in digital format, available for editing and revision, and it preserved the original's graphics and formatting. But it was time-consuming and expensive.
- **You could send the document as an e-mail message.** You'd first have to convert the document to plain ASCII (seven-bit) text. That way, the addressee received it in digital form, but all graphics and formatting were lost. The recipient could make changes on the digital copy and send it back to you, but you'd have to do a character-by-character or line-by-line comparison just to find the changes. You'd then transfer them to the original document (perhaps by cutting and pasting) and determine what formatting to apply to each change. That might be more work than dealing with an old-fashioned hard copy.

QUICK STUDY

All bets were off if the document in question included graphics, sound files or video clips or was written in Japanese or Russian, neither of which uses the Latin alphabet that ASCII is based on. Clearly, users needed more capable e-mail.

We got that better e-mail with the advent of Multipurpose Internet Mail Extensions. This standard took hold so quickly that today MIME compatibility is simply assumed to exist within every e-mail program and Web browser. MIME offers these features:

Non-ASCII Support

For electronic communications, letters of the Roman alphabet are encoded into numbers according to the ASCII-coded character set. However, for billions of users whose native language is not English and who do not use the unaccented Latin alphabet, ASCII is unusable. MIME allows other alphabets to be used via defined character sets.

For example, the ISO 8859-1 standard extends the basic ASCII character set to include accented characters used in French, Spanish and German; ISO 8859-8 is for Hebrew; and BIG5 is widely used in Taiwan, where it has become a de facto standard.

Content Type Labeling

To identify the type of content in a file, most operating systems use a short filename extension. MIME provides a better, more specific indicator, the MIME type, which includes a primary type, a slash and a subtype. (See table below.) The primary type is quite general; examples include text, audio, video, image and application.

The subtype provides the information a computer program needs to properly handle the content.

For example, image subtypes include JPEG, GIF, PNG, TIFF and others. A complete MIME type example is "image/GIF," where "image" is the primary type and "GIF" is the subtype.

Online Resources

The most up-to-date version of MIME is described beginning in RFC 2045 at the Internet Engineering Task Force Web site (**www.ietf.org/rfc/rfc2045.txt**), and it continues through RFC 2048.

A good introductory discussion of MIME can be found at **http://en.wikipedia.org/wiki/MIME**.

An "official" list of MIME types is at **www.iana.org/assignments/media-types**.

MIME types are important to the smooth running of the Internet. When a Web server sends content (which might be HTML text, JPEG or GIF images, or a PDF file) to a Web browser, it also includes a MIME-type descriptor. This is how the browser knows when to display HTML text and images, or when to start Acrobat Reader for a PDF file.

Support for Nontext Content

Today's Internet mail system is still limited by the legacy of its forebears and can only reliably carry messages that are entirely ASCII text. Before nontext content, such as an image or a sound, is sent through the e-mail system, it is usually encoded into text characters using a system called Base64. MIME also provides an alternative called "quoted-printable" that is suitable for character sets that are mostly ASCII-compatible. If you ever see the characters "=20" or just "=" at seemingly random places in the text of a message — especially one that has been forwarded numerous times — those probably are attributable to text that was incorrectly decoded from the quoted-printable encoding.

Support for Multipart, Compound Documents

When you send an e-mail with an attachment, your e-mail program creates a two-part message. The first part contains the text of your message, and the second part, the attached file (Base64-encoded). MIME specifies how these two parts combine to form a single message. A message may have any number of parts, and each one can contain multiple parts.

MIME has been adapted as a compound document technology for Web pages. Most Web pages consist of an HTML file, a set of image files, and perhaps some audio and video files. To view such a page off-line, you must save all of those files. Many browsers give you the option of saving just the HTML file, saving the HTML file and all image files to a directory, or saving it all as a single file. Pick the last option, and your browser will save the HTML and image files as a single multipart MIME document with an .mht extension. If you view this compound document with a text editor, you'll see the multiple parts separated by boundary lines and images encoded with Base64. ▸

Common MIME Types

Primary MIME Type/Subtype	File Extension	Description
text/plain	.txt	Plain text
text/html	.htm	Styled text in HTML format
application/msword	.doc	Microsoft Word formatted text
application/acad	.dwg	AutoCAD drawing
application/postscript	.eps	Encapsulated postscript
application/octet-stream	.exe	Executable file
application/zip	.zip	Compressed file
image/jpeg	.jpg	JPEG compressed image
image/gif	.gif	Graphic interchange format image
image/tiff	.tif	Tagged image file format
image/png	.png	Portable network graphic image
audio/mpeg	.mp3	Audio in MP3 format
audio/x-wave	.wav	Audio in WAV format
audio/midi	.mid	Audio in MIDI format
video/mpeg	.mpg	Video in MPEG format

Kay is a Computerworld *contributing writer in Worcester, Mass. You can contact him at russkay@charter.net.*

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BRIEFS

Arbor Enhances Security Appliance

Arbor Networks Inc. has added network behavioral analysis features to its Arbor Peakflow anomaly detection security appliance. The new features include enhanced router and interface support and risk indexing, according to Lexington, Mass.-based Arbor Networks. Arbor Peakflow X 3.6 is available now. Pricing starts at $30,000.

Microsoft BI Offering Due for '07 Release

Microsoft Corp. announced Microsoft Office Performance-Point Server 2007, business intelligence software that's designed to support business performance functions such as scorecarding, analytics and business planning. A beta version will be available this fall, and the final product is expected by mid-2007.

IBM Rational Updates Platform

IBM last week unveiled IBM Rational Software Development Platform 7, which includes 11 updated products and IBM Rational BuildForge 7, a code development tool that IBM acquired when it purchased BuildForge Inc. last month. Among other things, the tools are designed to track activities throughout the application development life cycle. Pricing is the same as it was for Version 6. The tools are available now.

Dual-Band Wi-Fi Card Announced

Motorola Inc. has announced the WDE1000, a dual-band Wi-Fi card for wireless connections that provides connections in both the unlicensed 802.11b 2.4-GHz band and the licensed 4.9-GHz public safety frequency. The product, available now in areas where the 4.9-GHz frequency is used, is aimed at emergency first responders who need to extend wireless connectivity or establish peer-to-peer connectivity.

CURT MONASH

A Public Policy Troika For Techno-Activists

IN MY MARCH 13 COLUMN, "The Voice of the Geek Needed in Public Policy Debates," I argued that we all should get active in matters of technology-related public policy. I subsequently followed my own advice, working out and publicizing a number of recommendations. Since then, I have come to believe that in three particular areas, the need is urgent. So I'm asking you to join me and be active on one or more of these important fronts:

CURT A. MONASH is a consultant in Acton, Mass. You can reach him at curtmonash@monash.com.

1. If you live in a representative democracy, support candidates and legislation with the purpose of restraining governments' electronic data collection and monitoring activities. Simple delay is a useful stopgap. But more important is sensible system design upfront to at least make room for essential protections of freedom. (I've started a discussion of the particulars at *www.monashreport.com/2006/06/06/freedom-even-without-data-privacy*. If it attracts sufficient interest, I'll move it to a more robust home.) More important yet, we should all support a change in legislative focus — to one that assumes huge amounts of data will be gathered but puts strict limits on what use can be made of that data.

2. The situation is much worse in places that are fundamentally undemocratic. Countries such as China, Iran, Syria and Saudi Arabia put tight controls on Internet content and access. There are two things you can do personally to fight this censorship. One is to publish censored information on your own Web site in a program centered at *http://irrepressible.info*. The other is to help work out the technology that will be needed for such an effort to succeed for more than a short while. That discussion may be found at *www.monashreport.com/2006/06/06/fighting-internet-censorship*.

3. If you have ties to a developing country, or are just looking for a new way to invest, get involved in promoting the technology industry there. You can find lot of discussion — and some very specific ideas — about this at *www.monashreport.com/category/public-policy-and-privacy/economic-development*.

Here's why you should care strongly about the first two points: Governments around the world are — or are on the verge of — tracking essentially all electronic communications. Examples include recent revelations of National Security Agency data capture, legislation in the U.S. and Europe that would mandate multiyear retention of all Internet connection data, massive government-plus-commercial data integration projects, biometric passports, national ID cards and electronic health records, to name a few. The net effect is simple but profound: Governments around the world are seeking access to substantially every bit of information about you.

True, this isn't an immediate threat. (We're talking about the largest data-integration projects in the history of the world — and they're government projects. Imagine the implementation cycle.) But most of the technical approaches to limiting the dangers in this trend need to be reflected at system design time. What's more, the ones that fall purely in the legal sphere are clearly going to require years to achieve political adoption.

There are three essential features to a legal and technical solution:

- All kinds of actual government information monitoring should be disclosed, with at most very narrow exceptions.
- Information security against both physical and social-engineering attacks should be ridiculously strong. As government develops a culture of modern information analysis, it also needs to develop a culture of rigorous confidentiality.
- Strict laws need to be enacted that control the use of information. Just as employers must ignore visual evidence of a person's disabilities in making hiring decisions and a mortgage company must ignore address clues that might indicate what a person's race is, our laws must ensure that people remain free from discrimination or other consequences based on their reading patterns, buying patterns, travel patterns, communication patterns, genetic data and so on. When fully fleshed out, that's a long list of protections, and putting them in place won't happen overnight. That's why we need to get started right away.

In democracies, these are challenging but realistic goals. In autocracies, the situation is more dire. Technological trends, combined with political stagnation, truly are leading countries like China toward *1984*-like control or worse. There's a natural counterforce — the yen for liberty possessed by everybody, and most particularly by the creative classes needed to keep modernization going. But this force needs all the help we can give from the outside. The most effective pressure we can place from the outside is the kind that pushes information in, allowing it to cross even the strongest barriers that oppressors can erect. ▸

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MANAGEMENT

06.12.06

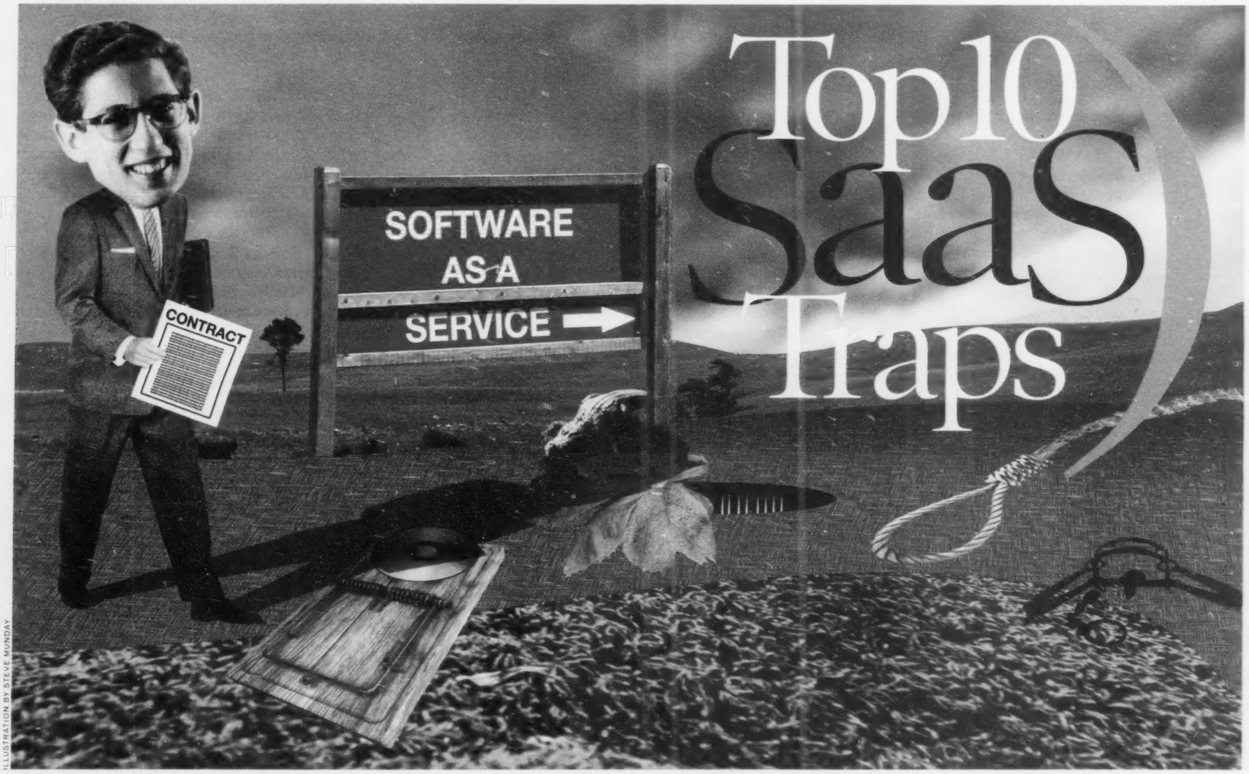
Career Watch

R.E.S.P.E.C.T. Find out what it means to your IT employees — and what they may do if they don't feel the love. Plus, Kevin Knaul (left) of Hudson IT & Telecommunications discusses the future of IT work. And we examine why you're feeling so stressed (and why you're not the only one in IT who is). **PAGE 48**

OPINION

The Long Fuse to Fusion

Oracle's upcoming migration to Fusion will require customers to make some hard business decisions, says Bart Perkins. And his advice is not to wait; the time to develop a strategy is now. **PAGE 50**



Top 10 SaaS Traps

ILLUSTRATION BY STEVE MUNDAY

Software-as-a-service agreements can snare the unwary.

BY THOMAS HOFFMAN

IN THEORY, SOFTWARE AS A SERVICE (SaaS) should be a cost-effective option for IT executives who don't want to deal with the hassle and expense of installing and supporting software for users. By tying into a Web-based software service that users can access with a browser, IT departments can avoid the costs of adding servers, powering servers or even setting aside space for them in a data center. And since the software is supported by a managed service provider, IT managers don't need dedicated staffers to deal with help-desk-related issues.

So SaaS is cheaper than installing your own software, right? Don't count on it. "If you go into a SaaS agreement believing it's going to be less expensive under all circumstances, you should reorient your thinking," says Rob DeSisto, an analyst at Gartner Inc. There are all kinds of extraneous expenses that SaaS customers need to be aware of, according to DeSisto. Those include setup costs, training fees, storage limits and the costs of integrating with other applications.

Here are the top 10 gotchas in SaaS agreements that corporate customers should watch out for:

1) **"I AGREE" TO WHAT?** SaaS providers typically send electronic contract notifications to customers with an "I agree" button for them to click, says Pat Cicala, president and CEO of Cicala & Associates LLC, a consulting firm in Hoboken, N.J. "People usually get sick of reading these agreements online and end up clicking 'I agree,' " says Cicala.

IT organizations that are poorly governed or don't have a centralized Web licensing strategy run a significant risk of having business leaders agreeing to software terms they're not familiar with.

"You've got business buyers making a lot of the contractual decisions, and they're not savvy in a lot of the contractual issues," says DeSisto. For instance, most business leaders don't know enough to ask if the vendor's data center is staffed by people with proper security certifications or if the vendor is ready to comply with the SAS 70 auditing standard.

2) **EASY INSTALLMENT PLANS.** For customers, one attractive characteristic of SaaS agreements is that they don't require a huge upfront financial commitment to start a service. But even though there are advantages to paying for the service on a monthly or quarterly basis, few customers realize that they can pare their yearly costs by 5% to 15% if they pay for an annual SaaS agreement all at once, says Michael Mankowski, senior vice president of Tier 1 Research in Minneapolis.

Customers should also obtain the rollout plan for the software in writing, says Mankowski. Find out what the vendor's rollout capacity is, he says. Will it add 100 of your users per week? Per month?

3) **MISSING SLAs.** Service-level agreements, such as those guaranteeing vendor response time, are a critical component of SaaS contracts, says Mankowski. Some vendors provide SLAs with the contract, while others charge extra fees for SLAs or don't provide them at all, he says.

"If it's a business-critical application and you need five 9s uptime, you need to make sure that's covered in the agreement with your SaaS provider," Mankowski says.

Also, contracts should stipulate penalties such as credits or givebacks if service levels aren't met, says Jeff Kaplan, managing director at ThinkStrategies Inc., a consulting firm in Wellesley, Mass.

AN AGREEMENT THAT WORKS

When Agristar Global Networks Ltd. in Chicago launched a satellite-based service in 2003 to connect commercial farmers and ranchers with trade partners, it wanted to provide customers with a portal where they could check on news, weather and market prices.

But when it requested proposals from vendors, Agristar Vice President and Chief Financial Officer Joseph Kruszynski discovered that many outsourcers wanted $50,000 just to implement and launch the portal service, never mind the monthly user and service fees that would be added on top of that.

After shopping around, Agristar entered into a software-as-a-service agreement with InfoStreet Inc. in Tarzana, Calif. The application service provider (ASP) provides a customizable portal called StreetSmart and charges Agristar about $4,000 a month for the service, which includes training and support costs. Under the contract, which started in May 2003, Agristar paid InfoStreet a "nominal" fee to set up the portal and integrate the system with Agristar's e-mail system, says Kruszynski. Agristar also had to shell out a small amount of money to integrate the system with the Hughes Network Satellite services it uses. "It wasn't much of a cost," says Kelly Paradis, director of Web development at Agristar, which now has several thousand customers using the portal.

Although Agristar is happy with the agreement, it has the option to back out of the contract with 90 days' notice at a cost of less than $5,000, says Kruszynski.

InfoStreet has made one modification to the original agreement. When Agristar first signed the deal, InfoStreet guaranteed 99.95% uptime for the portal. Beginning in April, the ASP upped that guarantee to 99.99%, says InfoStreet CEO Siamak Farah. "Part of the reason that our termination costs are so low is that we stand by our product," Farah says.

– THOMAS HOFFMAN

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4) **PERFORMANCE LEVELS.** Customers should clearly define software uptime and availability levels with SaaS providers in writing. Before entering into an agreement with a SaaS provider, customers should ask the vendor for a record of past performance levels, says Kaplan. It's also wise to ask about business plans and investments that the provider is planning to make over the next three to 12 months, including enhancements to service-delivery capabilities, says Kaplan.

Customers should also ask how they will be contacted if there's a service disruption, and they should find out how much time the vendor has to fix the problem under the contract, says Mankowski.

5) **DEFINING UPTIME.** SaaS customers need to carefully define guarantees around system uptime, says DeSisto. Most contracts call for 99.5% uptime or part of your money back for a month. "But what does that mean?" asks DeSisto. "Is that 99.5% of planned uptime? Does the vendor plan to be down eight hours a month? If so, which hours?"

6) **ADD-ON COSTS.** SaaS customers should scour the fine print for hidden expenses. Sometimes vendors charge to configure the software or implement the database or workflow processes, says DeSisto. In some cases, vendors charge an additional $18 to $25 per user per month to stage and test the software, he says. And if you want to add support for handhelds and other mobile devices, those costs can escalate to $45 per user per month.

Vendors also may try to predetermine the amount of storage that's available for each end user in your organization and bill for overage charges. "So many people are buying SaaS based on price. They need to understand what the base product is and how much all the add-ons cost," says Rob Scott, managing partner at Scott & Scott LLP, a Dallas-based law firm.

Customers should also ask whether training is "baked into" the cost of the service or if there are additional costs for training or support, says Mankowski.

7) **INTEGRATION INTANGIBLES.** If SaaS software has to be integrated with other customer systems, buyers need to determine who's responsible for handling the systems integration and at what cost, Scott says. An "ecosystem" of third-party firms can typically handle this work for less than what SaaS providers charge, says Kaplan.

8) **DATA RIGHTS.** Before entering into SaaS agreements, customers should determine where their proprietary data will reside and what rights they have to access that data, says Cicala.

"If the deal goes south, you need to know where your data is and what kind of shape it's in," says Mankowski. Customers should also ask for guarantees in writing as to how the data will be protected from both a privacy and disaster recovery standpoint, says Kaplan. Moreover, customers should determine whether they're entitled to back up the data on their own systems should they choose to, Mankowski says.

9) **NON-NEGOTIABLE?** One of the biggest misconceptions about SaaS agreements is that they're simple "click-wrap" contracts that aren't open to negotiation, says Cicala. Customers figure they're already saving money, so they don't press the issue. "But the licensing costs are going to catch up to you," says Cicala. The vendor essentially bundles maintenance and support costs into the contract, so it makes sense to try to negotiate the deal down.

And just as with other types of software licenses, big customers can obtain volume discounts. "If you're talking 50 seats, there might not be a lot of discounting," Mankowski says. "If you're talking 5,000 seats, then the vendor might be inclined to talk a discount."

10) **EXIT CHARGES.** Let's say an organization has signed a one-year contract for CRM services for 1,000 seats but wants out of the deal after nine months. In some cases, providers will hit customers with exit charges before giving them their proprietary data back, says DeSisto. He points to one vendor that has enforced a 10% penalty against the total value of a contract if a customer wants to cancel the deal after six months.

Or let's say a customer has a service agreement for 200 users and wants to scale back to 100 users after six months. In some cases, the vendor will try to continue charging for 200 users or force the customer to pay a penalty for scaling down to 100 users, says DeSisto. Either way, he says, it flies in the face of the so-called on-demand software model. ▸

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SYBASE

Career Watch

Stressed to Kill

What could be more stressful than working in the medical field, where human lives are the stakes? Just one thing, according to a new survey: working in IT. According to a poll of more than 3,000 people commissioned by SkillSoft PLC, 97% of people working in IT say their life at work is stressful on a daily basis. Medical professionals come close to that level, with 96.8% saying their daily lives are stressful.

For IT professionals, it's the workload that produces the stress. SkillSoft reports that four out of five say they feel stressed before they even enter the workplace, as they gear up for another day of fielding complaints, feeling pressure from managers and meeting daily targets.

That IT is a nerve-wracked occupation came as no surprise to the folks at SkillSoft; they commissioned the survey with the expectation that they would find evidence of that very thing.

"Our research was sparked by a recent Gartner report which claims that an untrained or undertrained desktop user will cost an organization five times more to support than a well-trained worker," says Kevin Young, managing director at SkillSoft. "This led us to thinking about how much pressure this must also put on the IT professionals who have to provide such support."

97%

Percentage of IT workers who say their work life is stressful on a daily basis.

Kevin Knaul

TITLE: Executive vice president

COMPANY: Hudson IT & Telecommunications North America

Q&A

According to Kevin Knaul, corporate IT departments are shrinking and will continue to do so over the next few years. Companies will be boosting their IT investments, however, with CIOs increasingly filling internal positions with project managers and business analysts, two critical roles that can't be outsourced. Knaul expects that few people will be able to submit a résumé to a company and land a job. Instead, they will turn to firms that specialize in placing skilled IT talent. Long-term employment with a single company is going to be a thing of the past, he says. While the work will be there, professionals may be placed on multiple projects with a number of employers over the course of a relatively short period of time. *Computerworld*'s Jamie Eckle spoke to Knaul about what the future may hold.

What is driving the change in IT departments? IT departments are increasingly being expected to impact the bottom line and support overall business objectives. To ensure that happens, there is constant collaboration and communication between the tech department and the business to manage the progress of these projects and to make necessary adjustments as the business strategy evolves. With that, CIOs are reporting to the CFO rather than the CEO, and professionals who can translate business strategy into IT solutions are essential.

Hudson describes what sounds like a nomadic existence for IT workers in the years ahead. Will this lead to further decline in computer science enrollments? While some individuals with certain skill sets, such as software developers, will have to cope with a "nomadic existence," professionals can align themselves with a service provider to gain an in-demand specialization. Also, by getting fully entrenched in an organization and learning to bridge the gaps between business strategy and IT function, professionals can take their careers down a path that is anything but nomadic.

Despite the changing landscape, opportunities are just as [attractive] as they have ever been. Not only are increases in IT spending creating a buzz, but businesses are deeply affected by their information systems and technology. There is still something alluring about being able to solve business problems by thinking outside of the box to come up with a technical solution. Plus, universities are shifting to accommodate the evolving job market. Students are no longer just taught technical skills, but business analytics or business intelligence programs educate them on how to leverage IT as a component of the business strategy.

Some people like the idea of staying with one company for a long time. Will there be a glut of project managers and business analysts anytime soon? While there will always be workers who enjoy staying with one employer for a longer period of time, Hudson's research has found that workplace trends are going in the other direction. In fact, a recent Hudson survey found that 50% of the workforce expect to leave their jobs within five years. That figure jumps to 64% for workers ages 18 to 29. Nevertheless, the current demand for project managers and business analysts far outpaces the supply, and we do not expect that imbalance to change until there is a sufficient pool of professionals with business and IT competencies.

PAGE COMPILED BY JAMIE ECKLE.

63%

Number of workers who feel that they aren't treated with respect and who intend to leave their jobs within two years

OF NOTE: According to Sirota Consulting LLC, 32% of nonmanagerial workers rate the respect they receive from their company's management as "so-so," "poor" or "very poor." How can employers turn those numbers around? It's not that the employees who feel they get no respect are being abused, says David Sirota, chairman emeritus of the company. "But indifferent treatment, such as failing to recognize and reward employees for jobs well done, has an enormous impact on how employees feel and on employers' ability to retain them," he says.

19%

Number of workers who feel that they are respected but intend to leave their jobs within two years

SOURCE: DERIVED FROM EMPLOYEE SURVEYS CONDUCTED IN THE PAST YEAR BY SIROTA SURVEY INTELLIGENCE AT MORE THAN 100 ORGANIZATIONS WITH COMBINED WORKFORCES TOTALING MORE THAN 1 MILLION.

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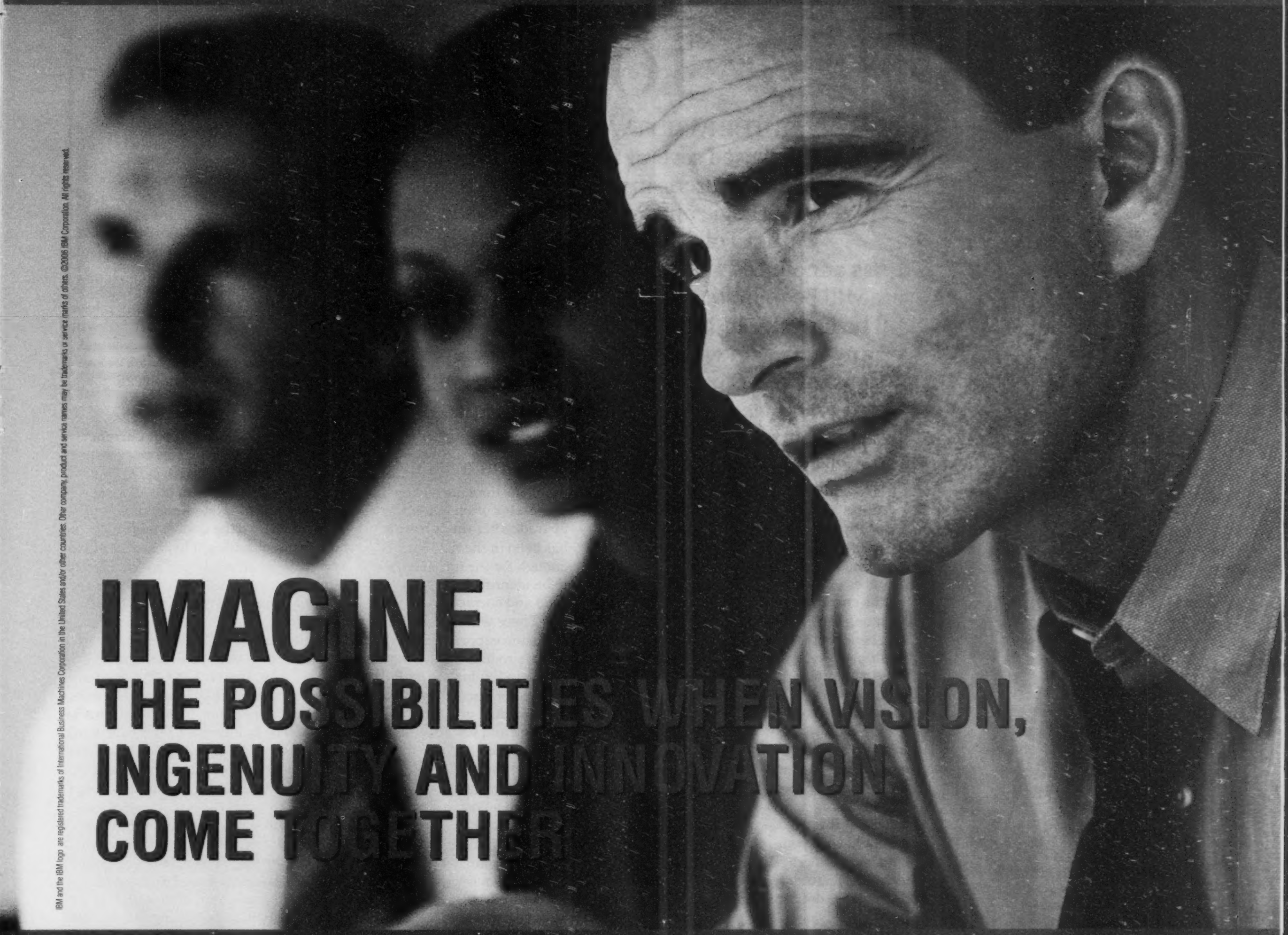

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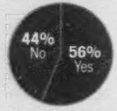
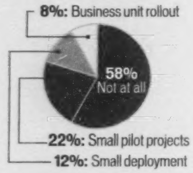
QUICK HITS

IT Trends

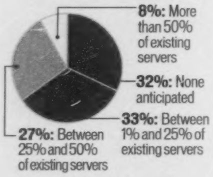
Are you looking at VoIP technologies?



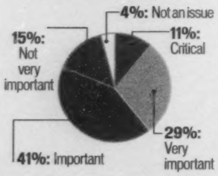
To what extent have you begun looking at Linux on the desktop?



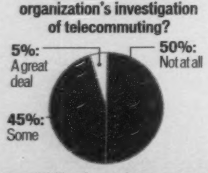
How much server consolidation do you expect to undertake this year?



How important will information life-cycle management be to your organization this year?



To what extent have rising energy costs affected your organization's investigation of telecommuting?



Base: 132 IT professionals in organizations worldwide

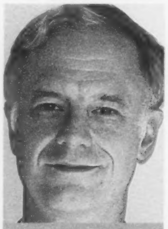
SOURCE: CUTTER BENCHMARK REVIEW, FEBRUARY 2006

BART PERKINS

The Long Fuse To Fusion

OVER THE PAST FEW YEARS, Oracle has purchased several application software manufacturers, including Siebel, Retek, ProfitLogic and PeopleSoft (plus J.D. Edwards). Following its acquisition binge, Oracle has announced that all its current application software will be migrated to a new platform, Fusion, that will be introduced in late 2007.

Migrating to Fusion will not be your average upgrade. It's a completely redesigned enterprise application suite based on the best functionality from the packages Oracle has acquired. In addition, Fusion will have completely new technical underpinnings based on a service-oriented architecture and Business Process Execution Language for Web Services (BPEL4WS). Oracle's "Applications Unlimited" commitment announces extended support for its current application suites. However, it is hard to believe that it will support multiple development teams indefinitely.



BART PERKINS is managing partner at Louisville, Ky.-based Leverage Partners Inc., which helps organizations invest well in IT. He was previously CIO at Tricon Global Restaurants Inc. and Dole Food Co. Contact him at **BartPerkins@LeveragePartners.com.**

Any organization that uses an Oracle-owned application suite must make a conscious migration decision regarding Fusion. Because of the size, scope, technical complexity and associated costs of this migration, you should base your decision on business criteria, not on technical features. As you decide what to do, consider the following:

- Migration to Fusion may require multiple upgrades of each application package. For most applications, Oracle will provide an upgrade to Fusion from only the two latest versions (some of which haven't been released yet). If you're using an older release, you'll have to upgrade to one of the newer versions first.
- Fusion is a complete rewrite. New product releases typically have more problems than normal upgrades. It's often better to upgrade after the software has been in the field long enough for the initial bugs to be identified (by someone else) and corrected.
- There will be a shortage of Fusion expertise after the initial product release. As a result, individuals with Fusion experience or even Fusion training will be in high demand and very expensive at that time.

If you use any Oracle-owned application suite, you need a Fusion strategy. Waiting until 2007 to plan will limit your options. Even though Fusion details have not yet been released, you should develop your business case and migration strategy now. Three basic strategies are possible:

Migrate to Fusion as soon as possible. If Fusion will quickly provide significant business benefits, begin your migration preparations soon. Start training your technical and business staffers. Migrate your applications to a release that supports a Fusion upgrade. Acquire ERP implementation experience now; hire new people, train your internal staff or find outside consultants. Get ready to initiate the project as soon as Fusion is released.

Hedge your bets and defer migration. If Fusion doesn't offer clear benefits for your company in the short term, wait to migrate. After three or four years, the "hot skill" premium for Fusion expertise will decrease, and the software will have fewer bugs.

Consider upgrading your applications in the meantime, however. Newer releases offer additional functionality and will reduce the complexity of your eventual migration.

Do nothing. If you are running an older Oracle-acquired application that's meeting your business needs well, don't migrate. Run your current package for three or four more years, then revisit the business case. At that point, it may be easier to install a completely new ERP system than it would be to undertake the double migration that Fusion requires. This has the added advantage of allowing you to completely re-evaluate your ERP strategy down the road and possibly select a non-Oracle solution.

Whatever you do, you need to begin developing your Fusion migration strategy now. If your CEO reads airline magazines, it won't be long until he asks you about your plans. In addition, Oracle will soon be bombarding your executives with reasons to migrate to Fusion. If you don't have an Oracle strategy, Oracle's sales force will definitely have a strategy for you. Do your research ahead of time, and be thoroughly prepared when the questions start.

There's plenty of time to develop an effective, business-based migration strategy, but don't put it off until Fusion becomes available. Ignoring the decision while the fuse continues to burn is unproductive. That approach will eventually blow up in your face.

Leverage the lead time provided by Oracle's early announcement of Fusion to make the migration decision that's right for your organization. ▶

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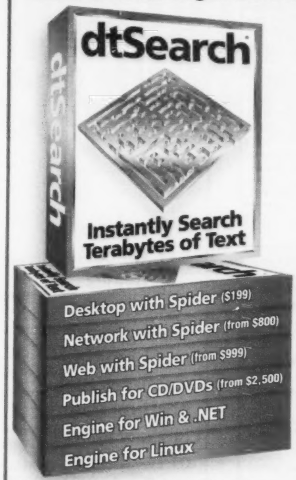
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- ◆ converts other file types (word processor, database, spreadsheet, email & attachments, ZIP, Unicode, etc.) to HTML for display with highlighted hits
- ◆ Spider supports static and dynamic Web content, with WYSWYG hit-highlighting
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Developer Quotes and Reviews

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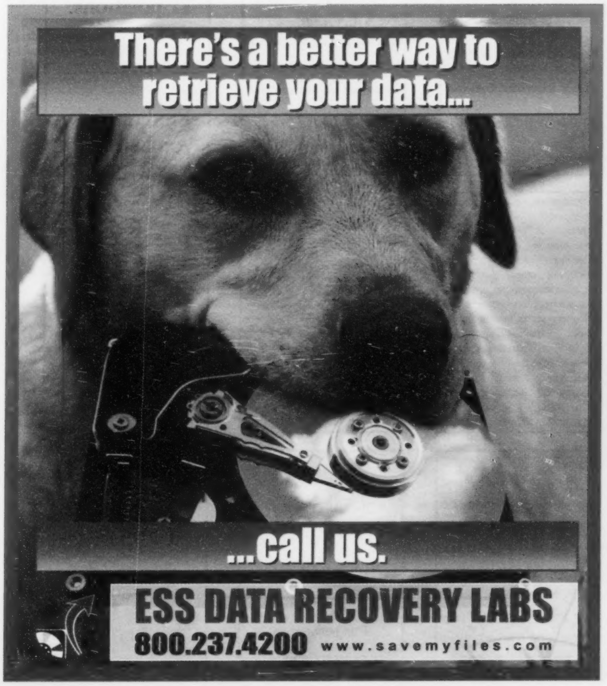
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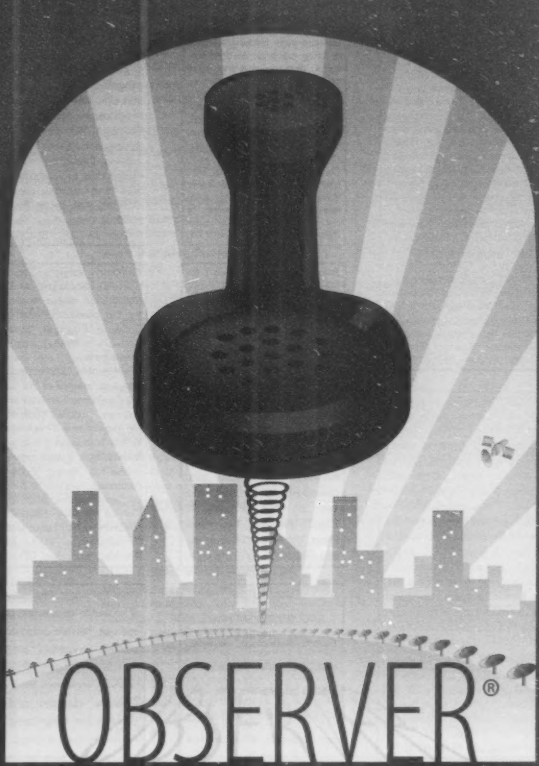

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Teleworkers

"because you get the benefit of having multiple cultures attacking the problem."

But the situation at HP isn't ideal for telecommuting, Pickett added. "By taking 85 of anything and making it six, you are dealing with new practices," he said. "And until those are established and people understand and feel comfortable with them, you can't afford to experiment."

Mott said at *Computerworld*'s Premier 100 IT Leaders Conference in March that HP had too many teleworkers within IT and that he planned to reduce the number of people working outside the office in an attempt to foster better teamwork internally.

Last week, he said in an interview that the policy change HP has now implemented affects "multiple hundreds" of IT employees, who in some cases may have to relocate because the company is also reducing the total number of its IT facilities from about 100 to 25. Mott added that more than 100 workers in the IT organization will still be able to telecommute and that the changes don't affect HP's flex-time work policies, which remain available to all IT staffers.

Mott was hired by HP last July after previously being CIO at Dell Inc. and Wal-Mart Stores Inc.

The telecommuting changes are being driven, he said, by the aggressive IT plans he has put in place at HP, which has more than 500 active projects that require heavy amounts of teamwork and cross-functional collaboration. In addition, the IT department needs to transform the skills of workers as it adopts new tools, Mott said.

"I really don't view what we're doing to be very different than what a lot of what I would consider leading-edge IT organizations do," he said. "We do allow [telecommuting] where it makes sense and where the jobs and the skills and the individual's performance has warranted it. But in a lot of cases, it certainly benefits both the individual and the business to really put these teams together."

HP has a total of 11,400 employees who currently telecommute, most of them in the U.S., a company spokeswoman said in a written response to questions. She added that HP's overall policy on out-of-the-office work hasn't changed. "The IT organization has made a specific business decision to provide guidelines that locate more team members together," the spokeswoman wrote.

One trend that may help foster further increases in the use of telecommuting is the interest that companies are showing in developing remote work capabilities as part of their business continuity plans, said Phil Zweig, vice president of information systems at The Northwestern Mutual Life Insurance Co. in Milwaukee.

But Zweig said that telecommuting may be difficult when it comes to processes that require "heavy-duty interaction," especially when a company is starting a new IT project. "The kickoff, the process-definition requirements — that's far more difficult to do from a telecommuting perspective," he said. From that standpoint, HP's decision to limit telecommuting by its IT staffers didn't surprise Zweig.

Still, he said he sees the ability to offer employees some workplace flexibility as a continuing requirement, especially among younger workers. Northwestern Mutual is currently exploring the idea of instituting a formal telecommuting program within IT, which lacks one now, Zweig said.

Industry analysts said that telecommuting is on the rise and that younger workers in particular expect it to be available as an option.

Indeed, 36% of the 27,108 IT workers who responded to a survey conducted by *Computerworld* in January gave telecommuting's importance as a job benefit the highest possible ranking on a scale of 1 to 10. That put it fifth on the list of benefits deemed to be "extremely important" by respondents to the survey, which is conducted annually as part of the process of choosing *Computerworld*'s 100 Best Place to Work in IT.

Gil Gordon, a telecommuting consultant in Monmouth Junction, N.J., said he gives Mott the benefit of the doubt and assumes that HP's CIO inherited "a situation where there was some kind of a problem that he was brought in to fix, and he chose to deal with it with an all-hands-on-deck approach." If that isn't the case, said Gordon, then the decision to curb telecommuting "looks terribly shortsighted." ◗

Home Savings

- The average annual cost of supporting an office worker in the U.S. is **$10,000** to **$12,500**, including building expenses.
- In some major markets, the support costs can reach **$18,500** per year for each employee in an office.
- For a teleworker, the annual cost, including IT support and connectivity expenditures, is about **$2,400** on average.

SOURCE: DELOITTE CONSULTING

Continued from page 1

E-health

can break even in Year 2, and by Year 3 we should be able to show a 3-to-1 ROI," she said.

CareSpark's business model requires that managers show stakeholders the likely savings that would come from exchanging patient data electronically, she said.

Meanwhile, Glenn Steele, president and CEO of Geisinger Health System, said he's no stranger to the sometimes staggering costs of moving to an EMR system. Danville, Pa.-based Geisinger has spent $70 million since 1995 to set up and run one for its 40 hospitals, clinics and physician practices, he said.

Steele said it took some time for the effort to show its potential for cost savings — and about five years to yield a return on the investment. For example, he said, physician practices reported a 5% to 10% reduction in productivity during the first six to eight months that the EMR system was in use. But after that, productivity increased markedly.

Geisinger now aims to update the system over the next five years to provide optimized care for patients with chronic diseases, he said.

Geisinger was able to get its 650 physicians to adopt the software early on by making it mandatory, Steele said. The health system also offered limited connectivity to the EMR system to area physicians not affiliated with Geisinger in order to show them its potential benefits and encourage them to link to it.

The health system also tapped several physicians to be advocates for the EMR technology among their colleagues, Steele said. "Without that, you are dead," he added.

Jim Morrow, vice president of North Fulton Family Medicine PC in its Cumming, Ga., office, said his practice began using EMR software in 1998 to eliminate annual data transcription costs of $110,000.

Since that successful start, the practice has realized additional savings by reducing the average number of workers needed to manage patient charts from just over four to just under three, he said. North Fulton also can now use the system to ensure that patients are receiving preventive care such as vaccines.

Morrow acknowledged that the costs — as much as $25,000 per physician — can be difficult to absorb. But he said doctors should move ahead with automating paper-based records on their own, or they could face government mandates in the future.

Mark McClellan, administrator of the U.S. Department of Health and Human Services' Centers for Medicare and Medicaid Services, said that many health care providers presume that "health IT doesn't pay off, especially if they operate on thin margins." At the same time, most health care executives do believe that EMR systems can improve the quality of health care, he said.

Some health care providers fear that undertaking IT projects that promise significant value could lead to financial woes, McClellan said. "In health care, you often get paid less when you provide a higher level of care at a lower cost," he said, because providing better health care generally means fewer visits to the doctor, fewer tests and less medication. ◗

CIOs on EMRs

A survey of healthcare CIOs released early this year found the following:

24% have a fully functional EMR system.

36% are at companies in the process of installing an EMR system.

4% have signed contracts for an EMR system.

24% have developed a plan to move to EMRs.

12% haven't created a plan to implement EMR technology.

SOURCE: HEALTH INFORMATION MANAGEMENT SYSTEMS SOCIETY'S ANNUAL LEADERSHIP SURVEY

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FRANK HAYES ▪ FRANKLY SPEAKING

Number Control

THE NUMBERS just keep rising out of control in the gigantic data breach at the U.S. Department of Veterans Affairs. On June 3, the VA said that as many as 50,000 active-duty U.S. Navy and National Guard and Reserve personnel, as well as 26.4 million military veterans, had their personal information exposed when a laptop was stolen from a VA employee's home last month.

A few days later, the VA decided that the 50,000 number was just a tad low. The new estimate: *2.2 million* active-duty U.S. military people, including National Guard members and reservists.

Also last week, veterans groups filed a lawsuit asking for nearly $30 billion for those whose personal data was exposed.

That's a big pile of money, even by Washington standards — though it still comes to only $1,000 per person affected.

Meanwhile, more details of IT problems at the VA keep dribbling out. How did the active-duty personnel's names, dates of birth and Social Security numbers get mixed in with those of veterans? The first answer from the VA was that a fouled-up paperwork process classified some military personnel as veterans even though they had re-enlisted.

But last week, the agency said it routinely receives records for all active-duty personnel because they're eligible for benefits.

Another data point: Some news reports last week said the VA is now trying to inventory and locate all its laptops.

So let's connect the dots:

The VA doesn't know how many laptops it has or where they are.

The VA doesn't know what's on those laptops.

The VA didn't know until last week who it keeps data on, or why.

The VA's data security processes are hopeless failures.

The VA's business processes are an incoherent mess.

Yes, this is an IT problem and a security problem. But it doesn't end there. Despite the dramatic IT-driven improvements at the VA's hospitals, this is a government agency that literally doesn't know what it's doing.

Outrage on behalf of veterans and active-duty military personnel is easy — and it's appropriate.

But this is just the tip of the iceberg. We all know that — anyone working in government or corporate IT.

Too many of *our* business processes are just as messy as the VA's. For years, we've collected data via the Web or by using customer relationship management systems, much of it data that we don't need, don't keep proper track of and haven't properly secured.

We let it be carried out the door every night in laptops, shipped cross-country in backup tapes and equipment, accessed over the Internet from employees' home computers. And in most cases, it's unencrypted, untracked and unsecured.

As we watch the VA's fiasco continue to unfold, we're in no position to feel superior or complacent. That could be us.

But we *are* in a position to see our own future. One image comes from that multibillion-dollar, class-action lawsuit on behalf of those whose personal data the VA exposed. If that lawsuit holds up in court, we're looking at potentially huge financial liability for every future data loss.

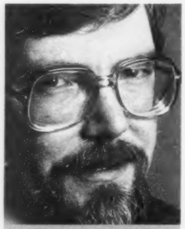
Another image comes with word last week that the American Institute of Certified Public Accountants lost personal information on its 330,000 members — including names, addresses and Social Security numbers — when a hard drive disappeared in transit.

That's right: Hundreds of thousands of CPAs suddenly have a very personal interest in how closely personal information is secured and how easily it can go astray.

In fact, the AICPA announced that it will no longer collect Social Security numbers and is "accelerating our efforts to develop other means of uniquely identifying our members."

That's our future, too: one where we'll have to keep a tight rein on Social Security numbers — or get rid of them entirely.

And the sooner we get a handle on *those* numbers, the better off we'll be. ▸



FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at **frank_hayes@computerworld.com**.

Technical Difficulties

"When is your @#$%! computer going to be fixed?" caller asks data center director pilot fish at this vocational school. "He said that one of our faculty members owed him a large sum of money but told him he couldn't pay the bill because the computer was broken and nobody had been paid for three months," fish reports. "After informing the businessman that payroll had been successfully processed every two weeks for the past several years, including the previous day, he quickly hung up the phone."

SHARK TANK

Um, No

User calls IT manager pilot fish to ask if he can have voice recognition software installed on his PC. Sure, says fish, but you know we're in a spending freeze right now, so it'll have to be approved, and we'll need to know the reason you require the software. User: "Because I hate doing dictation and I'm really lousy at it. I figure by using the voice recognition software, I could get more work done and never have to do dictation again."

Sound It Out

It's the late 1980s, and this self-taught IT pilot fish struggles to keep the server running for a small company. Everything he knows is from poring over documentation, and with some luck he never has to make a service call until the day the server finally goes belly up. "In my distinctive West Virginian accent, the dispatcher heard me say that, according to the console printout of the failed boot sequence, there's something wrong with the 'kapoo kashay,' " says fish. "It took several hours, but the field service guys finally figured out it was a bad CPU cache."

Did It Work?

Neighbor asks pilot fish for help: "Um, I think I've done something to my computer." Fish: OK, what did you do? Neighbor: "Well, you know how you can speed up the Internet by deleting your temporary Internet files? I went to Search and put in 'temporary,' 'Internet' and 'files' and deleted everything that came up."

Faster, Faster!

At this engineering company, people are working frantically to complete a major project. But the team is almost out of disk storage space, so IT pilot fish gets a call to increase the team's quota. There's no room on your current drive, fish explains. The only option is to switch on another disk shelf, and that will mean a brief interruption of service. Project director's reply: "My team is too busy generating the final data to stop to have a place to store it."

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